MW-19 DELINEATION

L.E.CARPENTER WARTON, NEW JERSEY

June 1998

James Van Nortwick, Jr., Ph.D., P.E. Project Manger

Steven J. Chillson, P.G.

Project Geologist

346870

RESIDUALS MANAGEMENT TECHNOLOGY, INC. 999 PLAZA DRIVE, SUITE 370 SCHAUMBURG, IL - 60173-5407

847/995-1500 - 847/995-1900 FAX

F:\WPORD\PJT\00-03868\03\R386803C.DOC 6/9/98

© 1998 RNIT, Inc. All Rights Reserved

Final Copy



Table of Contents

1.	Intr	oduction1
	1.1	Introduction1
	1.2	Background2
	1.3	Purpose and Scope
2.	Met	hods and Procedures7
	2.1	Soil Boring Activities
	2.2	Monitoring Well Installation Activities
	2.3	Monitoring Well Development Activities8
	2.4	Groundwater Sampling Activities8
	2.5	Investigation Derived Wastes8
•		· ·
3.		ılts9
	3.1	Site Stratigraphy9
	3.2	Groundwater Flow Direction 9
	3.3	Chemical Analyses of Groundwater9
4.	Refe	rences13
	- 10-10-	
List	of Ta	bles
I able	: 1 CO	mparison of Groundwater Chemical Analyses - 1996 vs 1998
iet /	of Fig	
	_	· ·
Figur 		Site Location Map4
Figur		Site Plan5
Figur		MW-19 Area6
igur		Groundwater Contour Map9
igur	e 5	Chemical Analyses of Groundwater12
_ist c	of Ap	pendices
Appe	ndix A	USEPA and NJDEP letter dated January 20, 1998
Appe	ndix E	Summary Tables of Historical Analytical Data
		A SECULAR AND A SECULAR AND A SECULAR ASSESSMENT ASSESS



Appendix C

Well Permits, Soil Boring/Well Construction Logs, Well Development

Information, Survey Maps

Appendix D

Field Sampling Data

Appendix E

Laboratory Reports

ii



Section 1 Introduction

1.1 Introduction

L.E. Carpenter has been conducting subsurface investigation and remedial action activities at their facility located at 170 North Main Street in Wharton, New Jersey, in accordance with the New Jersey Department of Environmental Protection (NJDEP) Amended Administrative Consent Order issued in 1986. Subsurface investigation and remedial action activities were conducted at the facility since that time and have included the advancement of soil borings, the installation of groundwater monitoring wells, soil, sediment and groundwater sampling activities, and the installation of a free-product recovery system.

In April 1994 the NJDEP issued a Record of Decision (ROD) for the L.E. Carpenter site. The ROD summarized the results of the remedial investigation, the base line risk assessment, the remedial alternatives, and presented the selected remedy. The ROD required remediation of groundwater and excavation and disposal of "hot spot" soils.

Certain "hot spot" areas have been addressed, however, there are several areas of environmental concern that are still undergoing corrective action. These include the following:

- Free-Product Area: The Free-Product area is approximately 100 feet by 500 feet in areal extent and is located in the central/eastern portion of the site. Free-product recovery operations are currently being conducted and groundwater remediation activities will be initiated once the free-product has been removed.
- Hot Spot-1 Area: The Hot Spot-1 area is located immediately west of Building 9 along the western property boundary. The groundwater in this area is impacted by bis(2-ethylhexyl) phthalate (DEHP). The nature and extent of DEHP-impacted groundwater is currently being investigated in accordance with the NJDEP-approved workplan dated August 1996.
- Hot Spot-4 Area: The Hot Spot-4 area is approximately 45 feet by 25 feet in size and is located southeast of the former Building 14 in the central/eastern section of the property. The soil located above the groundwater table in this area is impacted by DEHP. In accordance with the NJDEP-approved workplan dated August 1996, approximately 32 cubic yards of DEHP-impacted soil will be removed from this area and relocated to the former Waste Disposal area located along the eastern property boundary.
- MW-19 Area: The MW-19 area is located immediately west of Building 9 along the western property boundary. The groundwater in this area is impacted by volatile organic compounds (VOCs). The nature and extent of the VOC-impacted groundwater is currently being investigated in accordance with the NJDEP-approved workplan dated August 1996.



- Hot Spot B Area: The Hot Spot-B area is approximately 70 feet by 110 feet in size and is located immediately southwest of the former Building 14 in the central/eastern section of the subject site. The uppermost 5 feet of soil in this area is impacted by lead.
- Hot Spot C Area: The Hot Spot-C area is approximately 50 feet by 90 feet in size and is located immediately southeast of the former Building 14 and is adjacent to the Hot Spot 4 area in the central/eastern section of the subject site. The uppermost 5 feet of soil in this area is impacted by lead.
- Wharton Enterprises Property: This area is located off site just east of the drainage ditch which separates the L.E. Carpenter site from the Air Products, Inc. property. Surface soils at several locations in this area are impacted with polychlorinated biphenyls (PCB's).

The results of the subsurface and remedial action activities were submitted to the NJDEP and the U.S. Environmental Protection Agency (USEPA) and are described in the Final Supplemental Remedial Investigation Addendum Report (Roy F. Weston, September 1992), the Second Quarter Progress Report (Roy F. Weston, August 1996), and the Fourth Quarter 1997 Groundwater Monitoring Report (RMT, Inc., April 1998). In a letter dated January 20, 1998, the NJDEP requested additional information regarding several of the "hot spot" areas including the MW-19 area (See Appendix A). A site locator map, a site plan showing the locations of soil borings, groundwater monitoring wells, and free-product recovery system, and a site plan showing the location of the MW-19 area are presented in Figure 1, Figure 2, and Figure 3, respectively.

In February 1998, L.E. Carpenter engaged the services of RMT, Inc., (RMT) to conduct a subsurface investigation to define the extent of VOC-impacted groundwater in the vicinity of the MW-19 area as stipulated by the NJDEP in their letter dated January 20, 1998. This report specifically addresses the subsurface investigation activities conducted in the MW-19 area.

1.2 Background

The MW-19 area is located immediately west of Building 9 and is associated with two former 10,000-gallon underground storage tanks (USTs) which contained used methyl ethyl ketone (MEK) and pigments (UST E-3 and UST E-4). The USTs and the impacted soil surrounding the USTs were removed from the site in 1991. After tank removal activities had been completed, Weston installed groundwater monitoring well MW-19 in the area immediately adjacent to the excavation to determine whether the underlying groundwater had been impacted by previous operations conducted at the facility. The results of the groundwater sampling activities conducted at that time did not identify the presence of volatile organic compounds (VOCs) at concentrations above the method detection limits with the exception of 2-Butanone. However, subsequent groundwater sampling events conducted in February and June 1995 identified the



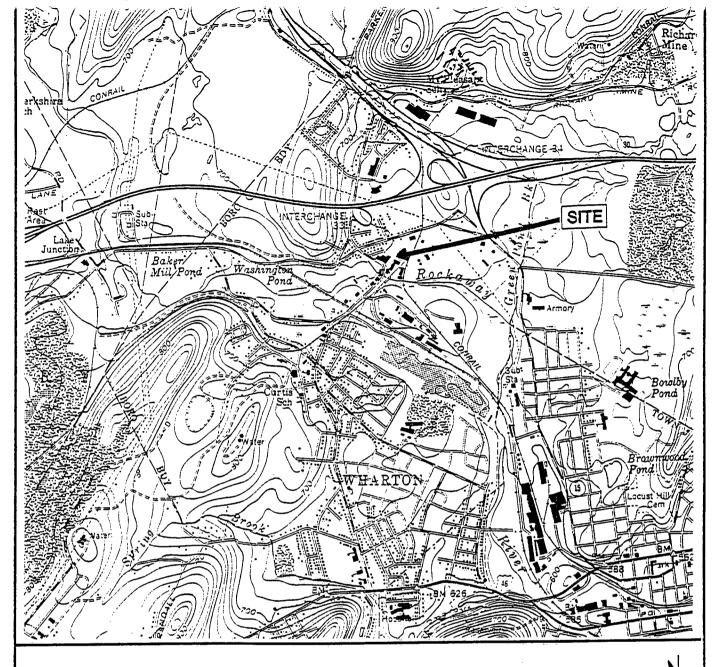
presence of benzene, toluene, ethylbenzene, and xylene at concentrations exceeding the NJDEP Groundwater Quality Standards stipulated in the Consent Order.

Based on these results, Weston installed nine temporary groundwater monitoring wells (B-1 through B-9) in the area surrounding the former UST excavation in 1996. The results of chemical analyses performed on the groundwater samples (BW-1 through BW-8), collected from the temporary monitoring wells, identified the presence of VOCs at concentrations similar to those identified in monitoring well MW-19 in 1995. The results of chemical analyses are summarized in Appendix B.

1.3 Purpose and Scope

The purpose of this report is to address NJDEP/USEPA concerns regarding the extent of VOC-impacted groundwater in the vicinity of the MW-19 area. The scope of work included the advancement of soil boring, the installation of additional groundwater monitoring wells, and soil and groundwater sampling activities to further define the impacted area. Due to the close proximity of the associated Hot Spot-1 area to the MW-19 area, the scope of work requested by NJDEP for each area was combined so that both investigation areas could be addressed using the same monitoring wells. The combined scope was verbally approved by NJDEP during the telephone conversation with Steve Chillson (RMT) and Gwen Zervas (NJDEP), on February 16, 1998. The scope of work conducted by RMT included the following tasks:

- Installation of the four permanent groundwater monitoring wells (MW-19-1 through MW-19-4) and one temporary groundwater monitoring well (MW-19-5).
- Measurement of groundwater elevations in the new and existing groundwater monitoring wells in the vicinity of the former USTs.
- Chemical analysis of groundwater samples collected from new and existing groundwater monitoring wells.

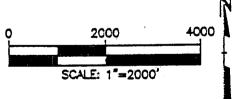




CUADRANGLE LOCATION

SOURCE:

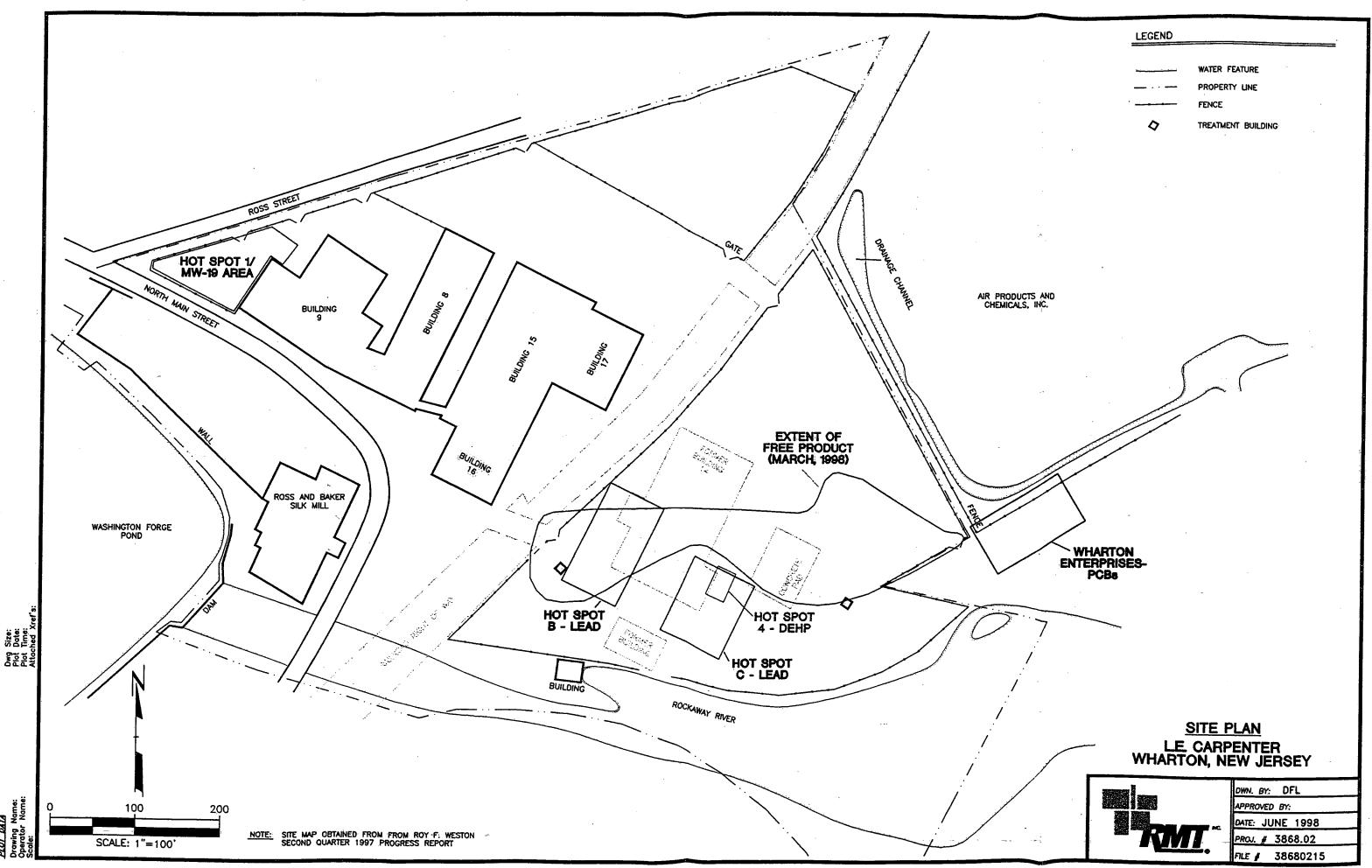
BASE MAP FROM DOVER, NEW JERSEY, 7.5 MINUTE USGS QUADRANGLE, DATED 1981.



SITE LOCATOR MAP LE CARPENTER WHARTON, NEW JERSEY



_	
DWN. BY: DFL	
APPROVED BY:	
 	-
DATE: APRIL 1998	
PROJ.# 3868.02	
	_
FILE # 38680208	



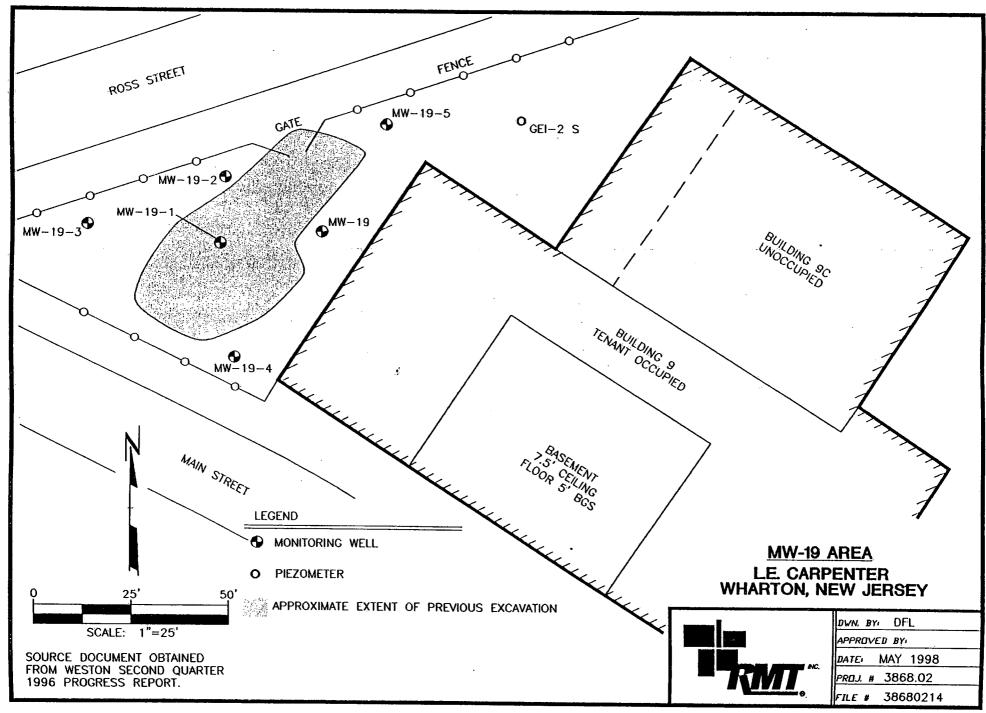


FIGURE 3



Section 2 Methods and Procedures

Field activities were conducted by RMT during the weeks of February 20 and 27, 1998, and included the installation of five groundwater monitoring wells (MW-19-1, MW-19-2, MW-19-3, MW-19-4, MW-19-5) in the area surrounding the former USTs in accordance with the NJDEP letter dated January 20, 1998. Prior to conducting the field activities, RMT obtained monitoring well installation permits, located on-site utilities, and notified the utilities companies that drilling activities were being conducted at the subject site. The methods and procedures used to conduct the field activities are presented in the following sections and the locations of the groundwater monitoring wells are presented in Figure 3. Copies of the monitoring well installation permits are included in Appendix C.

2.1 Soil Boring Activities

Soil borings MW-19-1 through MW-19-5 were advanced to a depth of approximately 18 feet bgs using rotary air hammer drilling methods. Continuous split spoon sampling was conducted during the advancement of soil borings MW-19-1 and MW-19-2 to further characterize the stratigraphy of the underlying soil and determine the appropriate monitoring well screen intervals. The soil samples were examined in the field by a geologist and classified using the United Soil Classification System (USCS). In addition, each sample was examined for indications of staining and/or contamination. All soil boring activities were conducted by Aquifer Drilling and Testing, of Trenton, New Jersey. Copies of the soil boring logs are presented in Appendix C.

2.2 Monitoring Well Installation Activities

Once soil boring activities had been completed, monitoring wells were installed in each soil boring. Monitoring wells MW-19-1 through MW-19-4 were constructed of 10-foot-long, 4-inch-diameter stainless steel screen and stainless steel riser. The temporary monitoring well, MW-19-5, was constructed using a 10-foot long 2-inch diameter PVC screen and riser. Each monitoring well extends to a depth of approximately 18 feet bgs and is screened between 6 to 15.5 feet bgs. A medium-grained sand was used as a filter pack around each monitoring well screen and extended above the top of the screened interval approximately 2 feet. Approximately 2 feet of bentonite was placed above the sand as a seal to prevent infiltration of the overlying cement-bentonite backfill into the filter pack. The monitoring wells were completed by installing a protector pipe and lock. Once groundwater monitoring well



installation activities had been completed, each well was surveyed to determine groundwater elevations and flow direction.

The monitoring well installation activities were conducted by Aquifer Drilling and Testing of Trenton, New Jersey, and site surveying activities were conducted by Recon, Inc., of Whippang, New Jersey. Copies of the groundwater monitoring well construction details, monitoring wells survey maps, and certifications are provided in Appendix C.

2.3 Monitoring Well Development Activities

No sooner than 24 hours after monitoring well construction activities were completed, each monitoring well was developed by bailing the sediments present in the base of the well, surging the wells with a surge block, and purging nine well volumes using a displacement pump, until the purge water was relatively clear and sediment-free. The pH, temperature, turbidity, conductivity, and volume of water removed during development was recorded during the monitoring well development activities. Copies of the monitoring well development records are included in Appendix C.

2.4 Groundwater Sampling Activities

Groundwater sampling activities were performed by Envirotech Research, Inc., on March 3, March 25, and April 10, 1998, and included obtaining groundwater samples from monitoring wells MW-19, MW-19-1 through MW-19-5 and GEI-2S. Prior to initiating the groundwater sampling activities, the depth to groundwater was measured using a electronic water level indicator. Each monitoring well was then slow purged by removing three to five well volumes of groundwater using a peristaltic pump. The temperature, pH, conductivity, and turbidity of the extracted groundwater was measured and recorded throughout the purging activities. Once the monitoring well had been sufficiently purged, groundwater samples were collected from each monitoring well using a Teflon® bailer in accordance with procedures presented in the NJDEP Field Sampling Procedures Manual dated May 1992. Monitoring well data collected during sampling is displayed in Appendix D.

2.5 Investigation Derived Wastes

Drill cuttings, monitoring well development water, purge water, and decontamination fluids were contained in 55-gallon DOT approved drums, labeled with the date, generators name, site location and source, and stored at the L.E. Carpenter facility pending chemical analyses and disposal. A copy of the waste disposal manifest will be submitted once the investigation derived waste are removed from the site.



Section 3 Results

3.1 Site Stratigraphy

The stratigraphy in the vicinity of the MW-19 area consist primarily of fine- to coarse-grained sand and gravel with some silt, cobbles and boulders. Soil borings MW-19-3 through MW-19-5 were not sampled; however, based on the soil cuttings generated during the drilling activities, no changes in the stratigraphy were observed. These results are consistent with documented soil characteristics observed by Weston during previous soil boring activities conducted in the MW-19 area.

3.2 Groundwater Flow Direction

The static water level measurements collected during the groundwater sampling activities were used to determine the localized hydrogeologic conditions in the vicinity of the MW-19 area. The water table elevations indicate that shallow groundwater in this area of the site is flowing in a northeastern direction as displayed on Figure 4. Groundwater is flowing under a relatively flat hydraulic gradient of approximately 0.006 ft/ft. The groundwater flow direction appears to be consistent with shallow water table flow patterns observed at the site.

3.3 Chemical Analyses of Groundwater

Groundwater samples collected from monitoring wells MW-19, MW-19-1 through MW-19-5, and GEI-2S were chemically analyzed for the presence of VOCs using EPA SW-846 Method 602. The results of the chemical analyses performed on groundwater samples collected from monitoring wells MW-19, MW-19-1, MW-19-2 and MW-19-5 identified the presence of toluene and xylene at concentrations exceeding the NJDEP Groundwater Quality Standards. The results of the chemical analyses performed on all other groundwater samples did not identify the presence of toluene and xylene at concentrations exceeding the NJDEP Groundwater Quality Standards. The results of the chemical analyses are summarized in Figure 5. All chemical analyses were performed by Envirotech Research, Inc., of Edison, New Jersey. A copy of the laboratory report and chain-of-custody form is included in Appendix E.

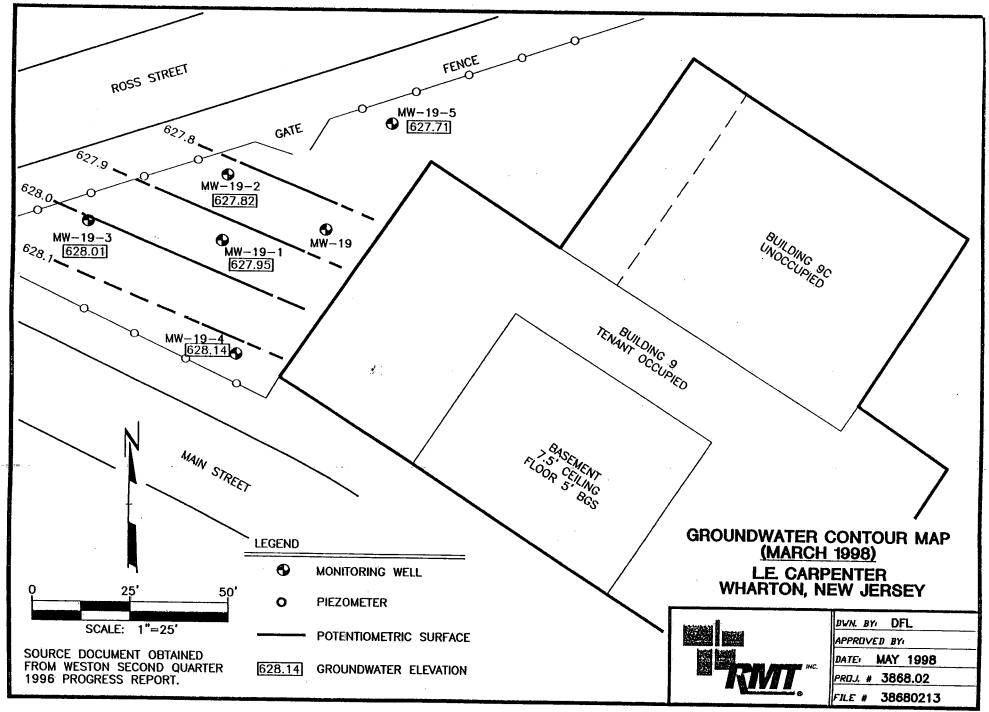


FIGURE 4



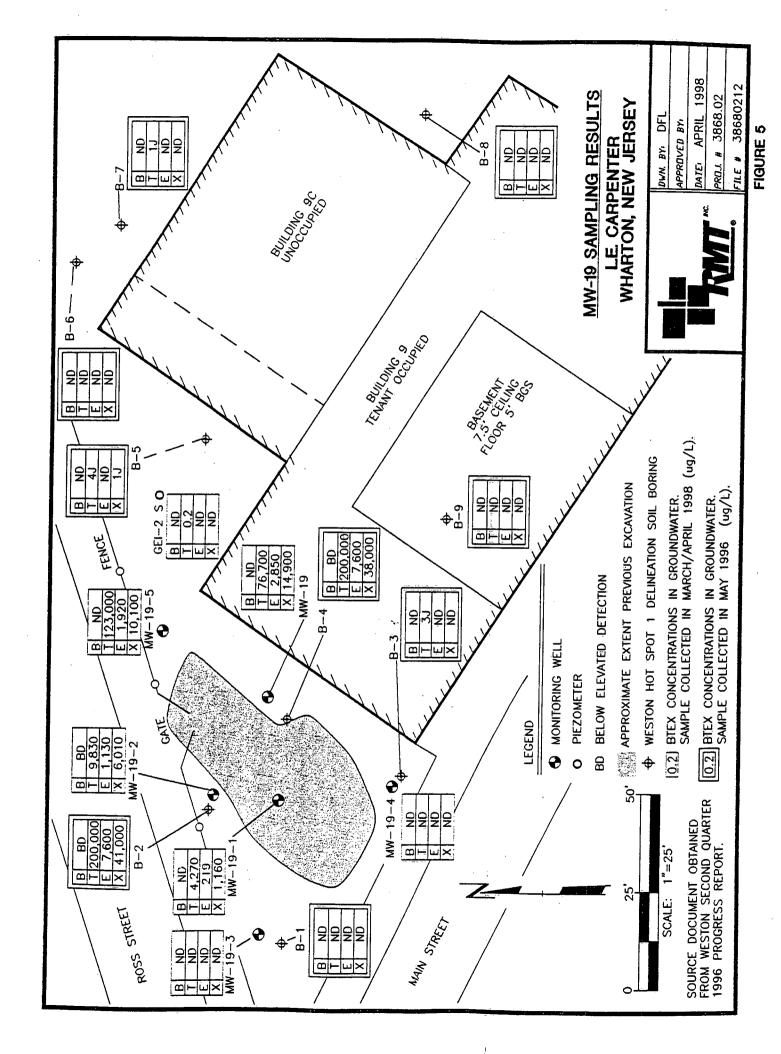
3.4 Summary

The results of the groundwater sampling activities identified the presence of VOCs within and downgradient of the former UST excavation at concentrations that exceeded the NJDEP Groundwater Quality Standards. However, these results were also compared to existing groundwater analytical data obtained from temporary wells installed in August 1996. As indicate in Table 1 and displayed on Figure 5, concentrations of toluene, ethylbenzene, and xylenes in groundwater samples collected from the monitoring well MW-19-2 were compared with those from the temporary well B-2 (located approximately 4 ft from MW-19-2), and the results from monitoring well MW-19 were compared to those from temporary well B-4 (located approximately 4 ft from MW-19). As can be seen, the comparison indicates that the contaminant concentrations have significantly decreased over time. These results indicate that natural attenuation appears to have occurred within and surrounding the MW-19 area.

The term "natural attenuation" refers to naturally-occurring processes in soil and groundwater environments that act without engineering intervention to reduce the mass, toxicity, mobility, and concentration of contaminants in those media. Natural attenuation depends upon natural physical processes, such as dispersion, dilution, and adsorption, to dissipate constituents and biodegradation to chemically transform constituents to achieve cleanup goals.

Table 1 Comparison of Groundwater Chemical Analyses - 1996 vs 1998

	MW-19-2	/B-2 Area	MW-19/B-4 Area				
Parameter (µg/L)	May 1996	April 1998	May 1996	April 1998			
Toluene	200,000	9,830	200,000	76,700			
Ethylbenzene	7,600	1,130	7,600	2,850			
Xylene	41,000	6,010	38,000	14,900			





Section 4 References

RMT, Inc., 1998. Proposal for Monitoring Well Installation.

- Roy F. Weston, Inc., 1992. Final Supplemental Remedial Investigation Addendum for L.E. Carpenter and Company.
- Roy F. Weston, Inc. 1996. Second Quarter Progress Report L.E. Carpenter Site, Wharton, New Jersey.
- State of New Jersey, Department of Environmental Protection, January 20, 1998. Letter regarding the L.E. Carpenter Superfund Site, Wharton, Morris County.



Appendix A USEPA and NJDEP letter dated January 20, 1998



State of New Jersey

Department of Environmental Protection

Robert C. Shinn, Jr.

Commissioner

Christine Todd Whitman Governor

Mr. Cristopher Anderson Director, Environmental Affairs L.E. Carpenter & Company 200 Public Square Suite 36-5000 Cleveland, OH 44114-2304

JAN 20 1998

Dear Mr. Anderson:

Re: L.E. Carpenter Superfund Site Wharton, Morris County

The New Jersey Department of Environmental Protection (Department) and the U.S. Environmental Protection Agency (EPA) have reviewed the Second Quarter Progress Report dated August 1996. This document provided information regarding historical site information regarding the lead levels (Inorganic Hot Spots B and C) as well as information about Hot Spots 1 and 4 and the MW-19 area. Comments are presented below:

1. Inorganic Hot Spots B and C - The document states that the levels of lead in the soil that exist on site are a result of historical mining activities, and not attributable to L.E. Carpenter activities. While the Department and EPA believe that these lead levels in the soil may be at background concentrations that exist in this area, more information is needed. Therefore, it is requested that L.E. Carpenter obtain twenty samples from off-site locations and analyze them for lead in order that those results can be compared to the levels found on the L.E. Carpenter property. Twenty samples are required so that the results can be considered statistically significant.

Alternatively, L.E. Carpenter can develop a revised risk assessment to determine the risk associated with leaving the lead contaminated soils on site as well as a focused feasibility study that would address the soil capping alternative for the lead contaminated soils. In this case, the lead contaminated soils would only be allowed to be left on site if the risk posed is within the acceptable range of 10^{-4} to 10^{-6} and all soils over 600 ppm would be capped with a soil cover.

- 2. Hot Spot 1 The argument that DEHP in soils at Hot Spot 1 is due to ground water smearing is very weak. DEHP is not fully delineated in this area, therefore, it is requested that additional well points be installed at B-1, B-3, and B-4 and analyzed for DEHP.
- 3. Hot Spot 4 The recommendation for additional limited excavation is acceptable, however post-excavation samples are required on the southeast

side of the excavation unless the planned excavation is continued to points 4-DEL-3 and 4-DEL-7.

4. MW-19 Area - The proposed delineation plan for MW-19 area is acceptable.

Please feel free to contact me at (609) 633-7261 if you have any questions.

Sincerely,

Gwen Barunas, P.E.

Case Manager

Bureau of Federal Case Management

c: Stephen Cipot, USEPA John Prendergast, BEERA George Blyskun, BGWPA



Appendix B Summary Tables of Historical Analytical Data

TABLE 1 VOLITILE ORGANICS RESULTS GROUNDWATER SAMPLING ROUNDS 1,2,3, AND 4 (ug/L)

	MW-19		MW-2	MW-20		MW-	21	MW-	22		MW-2	3	MW-24		MW-25			
	3	MEAN	3	MEAN		3	MEAN	4	MEAN		4	MEAN		:	MEAN	4		MEAN
	7/3/91	- ₇	7/3/91			7/3/91		2/19/92	:		2/19/92		2	2/19/92		2/19	9/92	
Chlorobenzene	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND		ND	ND	NI		ND .
Chloromethane	ND	ND	ŇD	ND		ND	ND.	ND	ND		ND	ND		ND	ND	NI	5	ND
1,1 - Dichloroethane	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	7	30		NI		ND
1.1 - Dichloroethene	ND	ND	ND	ND		ND	ND	ND	ND		2.J	2,1	寸	35	35	NI		ND
1,2 - Dichloroethene (total)	ND	ND	ND	ND		ND	ND	ND	ND		3J	3J	-	36	36	NI		ND .
Ethylbenzene	ND	ND	ND	ND		ND	ND	3200	3200		ND	ND	7	ND	ND	- NI		ND
Heptane	ND	ND	ND	ND		ND	ND	ND	ND	_	ND	ND		ND	ND	NI		ND
Methylene Chloride	ND	ND	ND	ND	_	ND	ND	160B	160B	_	813	8B	-	56B	56B	7B		7B
Tetrachloroethene	ND	ND	ND	ND		ND	ND	ND	ND	_	ND	ND	- -	450	450	NI NI	—-ŀ	ND
Toluene	ND	ND	ND	ND		ND	ND	ND	ND	_	ND	ND	- -	ND	ND	NI		ND
1,1,1 - Trichloroethane	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	┪	730	730	NE		ND
Trichloroethene	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND	1	28	28	NI		ND
Xylenes (total)	ND	ND -	-10	10		ND	ND	18000	18000	_	ND	ND	1	ND	ND	NI		ND
Chloroform	ND	ND	ND	ND	_	ND	ND	ND	ND		ND	ND	-	ND	ND	NI		ND
1,1,2 Trichtoro - 1,1,2 -	ND	ND	ND	ND		ND	ND	ND	ND		ND	ND		ND	ND	NE		ND
triflouroethane		_		·····		·	····					1			1112	LIAL		MD]
MEK	6800									1	IJ	1						
		•		ר						Į,	1.7	J						

ACETONE

Γ-

83

J - ESTIMATED VALUE

ND - NOT DETECTED

NA - NOT ANALYZED

B - DETECTED IN BLANK

NOTE - ONLY THE ROUNDS SAMPLED ARE SHOWN ON THIS TABLE

MEAN = ARITHMETIC MEAN

TABLE 4-1 **VOLATILE ORGANIC COMPOUND LABORATORY ANALYTICAL RESULTS GROUNDWATER SUMMARY TABLE** L.E. CARPENTER WHARTON, NEW JERSEY

Lab Sample Number Sampling Date Dilution Factor Units	NJDEP Class IIA Groundwater Criteria (ug/l)	MW-13S 20771 02/23/95 1.0 ug/l	MW-27 20772 02/23/95 1.0 ug/l	FB_2-23 20773 02/23/95 1.0 ug/l	TB_2-23 . 20774 02/22/95 1.0 ug/l	MW-17S 20784 02/24/95 1.0 ug/l	MW-18S 20785 02/24/95 1.0 ug/l	MW-184 20786 02/24/95 1.0 ug/l	GEI-21 20829 02/24/95 1.0 ug/l	GEI-2S 20830 02/24/95 25.0
PARAMETER:	1	1	I							ug/I
OLATILE COMPOUNDS	1 1	1	1		ľ	Į.				l
Chloromethane	15 (1)	0.7 U		i	i	f	ď	i		•
Bromomethane	10 10	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	· 0.7 U		ł
VinylChloride	5		0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.7 U	0.7 U	16
Chloroethane	NA I	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	1	0.9 U	22
MethyleneChloride		0,7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	18
Trichlorofluoromethane	2 NA	0.9 U	0,9 U	0.9 ป	0.9 U	0.9 U	0.7 U	0.7 U	0.7 U	18
1,1-Dichloroethene		0.3 U	0.3 U	0.3 ∪	0.3 U	0.8		0.9 U	0.9 U	23
1,1-Dichloroethane	2	0.7	0.4 U	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U	0.3 U	7.0
trans-1,2-Dichloroethene	35 (1)	1.6	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	0.4 U	0:4 U	9.8
cls-1,2-Dichloroethene	50 (1)	0.4 U	0.4 U	0.4 U	0:4 Ú	0.4 U	0.2 U	0.2 U	0:2 U	4.0
Chloroform	5 (1)	3.0	1.0 U	1.0 U	1.0 U	1.0 U	0.4 U	0.4 U	0.4 U	10
1,2-Dichloroethane	6	0.3 U	0.3 U	0.3 Ú	0.3 U	0.3 U	1.0 U	1.0 U	1.0 U	25
1,1,1-Trichioroethane	2	0.3 Ù	0.3 U	0.3 U	0.3 U		0.3 U	0.3 U	0.3 U	8.0
Carbon Tetrachloride	15 (1)	0.8 U	0.8 U	0.8 U	0.8 U	0.3 U	0.3 U	0.3 U	0.3 U	6.5
Bromodichioromethane	2	0.1 U	0.1 U	0.1 U	0.1 U	0.8 U	0.8 U	0.8 U	0.9	19
1,2-Dichloropropane	[1 [0.2 U	0.2 U	0.2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	3.2
*,4-Dichloropropane	1 1	0.3 U	0.3 U	0.3 U		0.2 U	0.2 U	0.2 U	0.2 U	6.2 (
cls-1,3-Dichloropropene	NA I	0.1 U	0.1 U	0.1 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	8.5
Trichloroethene	1 1	0.6	0.3 U	0.3 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	3.2 1
Dibromochiloromethane	10	0.1 U	0.1 U		0.3 U	0.4	0.3 U	0.3 U	0.3 U	8.5 (
1,1,2-Trichloroethane	3	0.3 U	0.3 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	
Benzene	1 1	0.3 U	0.3 U	0.3 U	0.3 0	0.3 U	0:3 U	0.3 U	0.3 U	3.8 (
Irans-1,3-Dichloropropene	NA I	0.7 U	0.7 U	0.3 U	0:3 U	0.3 U	0.3 Ü	0.3 U	0.3 U	7.0 (
2-ChloroethyfVinylEther	NA I	0.4 U		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U		8.2 (
Bromoform	74	0.2 U	0.4 U	0.4 U	0.4 U	0.4 U	0:4 U	0.4 U	0.7 U	18 L
Tetrachloroethene	i i l	0.3 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.4 U	9:0 L
1,1,2,2-Tetrachloroethane	1 2	0.5 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		0.2 U	5.8 L
Toluene	500 (1)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.3 U	0.3 U	8.8 L
Chlorobenzene		0.3 U	0.3 U	0.3 U	0.3 U	0.3	0.3 U	0.5 U	0.5 U	
Ethylbenzene	- 3.7.1	0.3 U	0.3·U	0.3 U	0.3 U	0:3 U		0.3 U		1500
Xylene(Total)	1	0.3 U	0.3 U	0:3 U	0.3 U	0.6	0.3 U	0.3 U	0.3 U	7.5 U
	20 (1)	1.0 U	1.0 U	1.0 U	1.0 U	1.9	0.3 U	0.3 U	0:3 U	48
al Target Conc. VOC(s)						1.5	1.0 U	1.0 U	1.0 U	380
	1_	5.9	0	0	0				1.3	

Samples analyzed by Method 624 plus xylenes.

(1) Discharge criteria established in the ROD.

ug/I denotes microgram per liter.

Sample MW-27 is a duplicate of MW-11i.

TB_2-23 (20774) was prepared on 02/22/95, and accompanied samples collected on 02/23/95.

U denotes not detected.

NA denotes not applicable.

^{*} Values listed reflect the combined standards for the cis and trans isomers of 1,3-Dichloropropene.

VOLATILE ORGANIC COMPOUND LABORATORY ANALYTICAL RESULTS TABLE 4-1 GROUNDWATER SUMMARY TABLE L.E. CARPENTER

				L.E. CARPEN	TER	•				
ample ID			WH	ARTON, NEW	JEDOM.					
ib Sample Number		MW-19		IN INCAR	1EK2FA					
impling Data	NJDEP Class IIA		FB_2-23	TB_2-23	r					
lution Factor	Groundwater	20831	20787	20788	MW-165	MW-16I	1000	 -		
ills	Criteria (ug/l)	02/24/95	02/24/95	02/23/95	20910	20911	MW-8	MW-9	Field_Blank	
	(-9-1)	2000.0	1.0	1.0	02/27/95	02/27/95	20912	20913	20919	Trip_Blank
VRAMETER:		ug/l	Ug/I		1.0	1.0	02/27/95	02/27/95	02/27/95	20920
LATILE COMPOUNDS	1				ug/l	ug/l	1.0	1.0	1.0	02/27/95
Chloromethane	1	j		1				ug/l	ug/l	1.0
Bromomethane	15 (1)	1			1					ug/i
VinylChloride	10 (1)	1300 U	0.7 U		J	ł	j	. 1		
Chloroethane	5	1800 U	0.9 U	0.7 U	0.7 U	0.7 U	1	· 1	ſ	1
Methylana	NA	1400 U	0.7 U	0.9 U	0.9 U	0.9 U	0.7 U	0.7 U		1
MethyleneChloride		1500 U	0.7 U	0.7 U	0.7 U		0.9 U	0.9 U	0.7 U	0.7 U
Trichlorofluoromethane	2	1900 U	0.9 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.9 U	0.9 U
1,1-Dichloroethene	NA	560 U	0.3 U	0.9 U	0.9 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1.1-Dichloroethane	2	780 U		0.3 U	0.3 U	0.9 U	0.9 U	0.9 U	0.7 U	0.7 U
Irans-1,2-Dichloroethene	35 (1)	320 U	0.4 U	0.4 U	0.4 U	0.3 U	0.3 U		0.9 U	0.9 U
CIS-1,2-Dichlornethana	50 (1)	800 U	0.2 U	0.2 U	0.2 U	0.4 U	0.4 U	0.3 U	0.3 บ	0:3 U
Uniorology !	5 (1)	2000 U	0.4 U	0.4 U		0.2 U	0.2 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethane	6	640 U	1.0 U	1.0 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U	
1.1.1-Trichlomethane	2	520 U	0.3 U	0.3 U	1.0 U	1.0 U	1.0 U	0.4 U	0.4 U	0.2 U
arbon Tetrachlorida	15 (1)	1500 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	1.0 U	1.0 U	0.4 U.
romodichioromethana	2 ''	260 U	-0.8 U	0.8 U	0.3 U	0.3 U		0.3 U	0.3 U	1.0 U
.4-Dichlomorona	1		0.1 U	0.1 U	0.8 U	0.8 U	0.3 U	0:3 U	0.3 U	0.3 U
is-1,3-Dichloropropene	i	500 U	0.2 Ú	0.2 U	0.1 U	0.1 U	0.8 U	0.8 U	0.8 U	0.3 U
richloroethene	NA I	680 U	0.3 U	0.3 U	0.2 U	0.2 U	0.1.0	0.1 U	0.1 0	0.8 U
ibromochioromethene	1	260 U	0.1 U	0:1 U	0.3 U	0.3 U	0:2:0	0.2 U	02 U	0.1 U
1,2-Trichloroethane	10	680 U	0.3 U	0.3 U	0.1 U	0.1 U	0.3 U	0.3 U		0.2 U
ausone	3	300 U	0.1 U	0.1 U	0.3 U	0.3 U	0.1 ()	0.1 U	0.3 U	0.3 U
ans-1,3-Dichloropropene	i 1	560 U	0.3 U		0.1 U	0.1 U	0.3 U	0.3 U	0.1 U	0.1 U
Chlorooth by	NA	660 U	0.3 U	0.3 U	0.3 U	0.3 U	0.1 Ü	0.1 U	0.3 U	0.3 U
ChloroethylVinylEther omolorm	NA I	1400 U	0.7 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.1 U	· 0.1 U
drachloroethene	4	720 U	0.4 U	0.7 U	0.7 U	0.7 U	0.3 U	0.3 U	0.3 U	0.3 U
1:22 Table 1	* 1	460 U	0.2 U	0.4 U	0.4 U		0.7 U	0.7 U	0.3 U	0.3 U
1,2,2-Tetrachlorgethane	1	700 U j	0.3 U	0.2-10-	0.2 U	. 0.4 U	0:4:U	0.4 0	0.7 U	0:7 U
luone	2	1000 U	0.5 U	0.3 U	0.3 U	0.2 U	0.2 U	0.2 U	0.4 U	0.4 U
iorobenzene	500 (1)	110000	0.3 U	: 0.5 U	0.5 U	0.3 U	0.3 U		0.2 U	0.2 U
ylbenzene	2 (1)	600 U		0.3 U	0.3 U	0.5 U	0.5 U	0.3 U	0,3 U	0.3 U
one(Total)	350 (1)	1700	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U	0.5 U	0.5 U
	20 (1)	10000	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
arget Conc. VOC(s)			1.0 U	1.0 U	1.0 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
	1	21700			1.0 0	1.0 U	1.0 U	0:3 U	0.3 U	0.3 U
res:		21.50	0	0			1.00	1.0 U	1.0 U	0.3 U
ples analyzed by Method 624 plus xyle					0	0	0		9	1.0 U
	nes.							0	o l	
										0
ple MW-19 was also analyzed (as a s										

ple MW-19 was also analyzed for 2-Butanone (Not Detected).

2-23 (20787) was misidentified in the field. It was prepared on 02/24/95 for that day of sampling.

2-23 (20788) was misidentified in the field. It was prepared on 02/23/95 and accompanied samples collected on 02/24/95.

ple Trip Blank was prepared on 02/27/95, and accompanied samples collect on 02/27/95.

ple Field Blank was prepared on 02/27/95 for that day of sampling.

onotes not applicable.

ses listed reflect the combined standards for the cis and trans isomers of 1,3-Dichloropropene.

VOLATILE ORGANIC COMPOUND LABORATORY ANALYTICAL RESULTS GROUNDWATER SUMMARY TABLE L.E. CARPENTER WHARTON, NEW JERSEY

Sample ID				TON, NEW JERSEY				
Lab Sample Number Sampling Date	NUDEP Class HA	MW-161	MW-158	MW-19				
Sampling Date	Groundwater	25802	25803		MW-20	MW-25		
Dilution Factor	Groundwater	06/13/96	06/13/95	25871	25872	25873	6-14-FB01	6-14-TBO
Units	Criteria (ug/l)	1.0	1.0	06/14/96	08/14/95		25874	25876
		ug/l		100.0	1.0	06/14/95	06/14/95	06/13/95
VOLATILE COMPOUNDS	1		ug/i	ug/I	ug/l	1.0	1.0	
Chloromethana	1 1					ug/i	ug/l	1.0
Bromomethane	15 (1)	NR		1 1	ļ			ug/l
VinylChlodd	10	NR NR	NR	93 U				
Chloroethane	5 1		NR	27 U	0.9 U	NR İ		
Mathetane	NA	NR	NR	39 U	0.3 U	NR	0.9 U	0.9
MethyleneChloride	2	NR	NR		0.4 U	NR	0.3 U	0.3
Trichlorofluoromethane	NA NA	NR	NR	100 U	1.0 U (NR	0.4 U	0.4
1,1-Dichloraethene		NA	NR	100 U	1.0 U	NR	1.0 U	1.0
1,1-Dichloroethane	2	NA	NR	23 U	0.2 Ü		1.0 U j	1.0
trans-1,2-Dichlomathana	36 (1)	NR	NR	56 U	0.6 U	NR	0.2 U	0.2
cls-1,2-Dichlomethene	50 (1)	NR		31 U	0.3 U	NR	0.6 U	0.2
Chloroform	5 (1)	NR	NR	30 u l	0.3 U	NR	0.3 U	
1,2-Dichloroethane	6	NR I	NR	100 U		. NR	0.3 U	0.3
1,1,1-Trichloroethane	1 2 1	NR	NR	100	1.0 U	NR	1.0 U	0.3
Compartmentaliana	15 (1)		NR	22.11	0.2 U	NR I	0.2 U	1.0
CarbonTetrachloride	2	NR	NR	500	0.2 U	NR		0.2
Bromodichloromethane	1 7 1	NR	NR		0.2 U	NR	0.2 U	0.2
1,2-Dichloropropane	1 : 1	NR	NR I	16 U	0.2 U	NR	0.2 U	0.2
cls-1,3-Dichloropropone	1	NR	NR	19 U	0.2 U	NR	0.2 U	0.2
Inchloroethene	NA NA	NR	NR I	46 U	0.5 U		0.2 U	0.2
Dibromochloromethene	1	NR .		33 U .	0.3 U	NR	0.5 U	0.5
1,1,2-Trichlorgathana	10	NR T		560	0.4 U	NR	0.3 U	
Benzana	3	NR	NK j	23 U	0.2 U	NR	0.4 U	0.3 (
* trans-1,3-Dichloropropens	1 1	0.10 U	NA	43 U		NR	0.2 U	0.4 (
2-ChloroethylVinylEther	NA I	NR	0.10 U	160	0.4 U	NR I	0.4 U	0.2 L
Bromoform	l NA		NK j	31 U	0,2 U	0.2 U		0.4 է
Tetrachloroethene	4 1	NR	NR	46 U	0.3 U	NR:	0.2 U	0.2 U
1 1 2 2 -	i. 1	NR	NR	30 U	0.6 U	NR	0.3 U	0.3 U
1,1,2,2-Tetrachloroethane	1 2 1	NR	NR :		0.3 U [NR	0.5 U	0.5 t
Toluene	500 (1)	NR:	NR		0.1 U	NR	0.3 U	0.3 L
Chlorobenzene		0.14 U	0.14 U	33 U	0.3 U		0.1 U	0.1 U
Ethylbanzana	2 (1)	NR	NR	140000	0.2 U	NR	0.3 U	0.3 U
Xylene(Total)	350 (1)	0.14 U	0.14 U	130	0.1 U	0.2 U	0.2	
2-Butanone	20 (1)	0.60 U		3400	0.2 U	NR	0.1 U	0.2 U
l Confident Conc. VOAs (s)	NA NA	NR.	0.50 U	17000	1.0 U	0.2 U	0.2 U	0.1 U
16/		0	NR	620		1.0 U	1.0 U	0.2 U
NOTES:			0	162488	5.0 U	NR	5.0 U	1.0 U
All samples analyzed by Metho ug/I denotes microgram per lite					0	0		5.0 U

All samples analyzed by Method 602, except MW-19 and MW-20 which were analyzed by Method 624. U denotes not detected.

NR denotes analysis Not Run.

6-14-TB01 (25875) was orepared on 06/13/95, and accompenied samples collected on 06/14/95.

Values listed reflect the combined standards for the cls and trans isomers of 1,3-Dichloropropene.

Table 3-3
Analytical Results Summary For Groundwater
Volatile Organic Compounds (ug/l)
L.E. Carpenter, Wharton, New Jersey
MW-19 Delineation

Sample ID	BW-1	BW-2	BW-3	BW-4					
Lab Sample ID	9605L188-013	9605L188-011	9605L188-010		BW-5	BW-6	BW-7	BW-8	NJDEP
Sample Date	05/10/96	05/10/96	05/10/96	1	9605L215-011	9605L149-012	9605L149-011	9605L149-010	GROUNDWATER
Units	ug/L	ug/L	ug/L	05/13/96	05/13/96	05/09/96	05/09/96	05/09/96	QUALITY
PARAMETERS:	<u>-</u>		ug/c.	ug/L	ug/L	ug/L	ug/L_	ug/L	CRITERIA* (ug/L)
Chloromethane	5 U	5000 U	5 U	5000 U					(-8)
Vinyl chloride	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	30
Bromomethane	5 U	5000 U	5 U	5000 U	5 U	5 Ú	5 U	5 U	5
Chloroethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	10
1,1-Dichloroethene	2 ∪	2000 U	2 U	2000 U	5 U	5 U	5 U	5 U	NLE
Acetone	5 U	5000 U	5 U	10000 B	2 U	2 U	2 U	2 U	2
Carbon Disulfide	5 U	5000 U	5 U	5000 U	24 B	5 U	30	12	700
Methylene Chloride	2 U	2000 U	2 U	2000 U	5 U	5 U	5 U	5 U	NLE
1,2-Dichloroethene (total)	5 U	5000 U	5 U	5000 U	2 U	2 ∪	2 U	2 U	2
1,1-Dichloroethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	10
2-Butanone	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	70
Chloroform	5 U	5000 U	5 U	5000 U	64	5 Ú	5 U	5 U	300
1,1,1-Trichloroethane	5 U	5000 Ü	5 U	5000 U	5 U	5 U	5 U	5 U	6
Carbon Tetrachloride	2 U	2000 U	2 U	2000 U	5 U	5 ∪	5 U	5 U	30
Benzene	1 U	1000 U	1 U	1000 U	2 U	2 U	2 U	2 U	2
1,2-Dichloroethane	2 U	2000 U	2 U		1 0	1 ∪	1 Ü	1 U	1
Trichloroethene	1 U	1000 U	10	2000 U 1000 U	2 U	.2. U	2 U	2 ป	2
1,2-Dichloropropane	1 U	1000 U	10	1000 U	1 U	1 U	1 U	1 U	1
Bromodichloromethane	1 U	1000 U	1 0		1 U	1 U	1 U	1 U	1
cis-1,3-Dichloropropene	5 U	5000 U	5 U	1000 U	1 U	1 U	1 U	1 U	1
4-Methyl-2-pentanone	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	5
Toluene		10 200000 N		5000 U	190	5 U	5 U	5 U	400
rans-1,3-Dichloropropene	5 U	5000 U	5 U	物200000滴酶	4 J	5 U	1 J	5 U	1000
1,1,2-Trichloroethane	3 U	3000 U	3 U	5000 U	5 U	5 U	5 U	5 U	7
Tetrachloroethene	10	1000 U	1 U	3000 U	3 U	3 U	3 U	3 U	3
2-Hexanone	5 U	5000 U	5 U	1000 U	10	1 U	1 U	1 U	1
Dibromochloromethane	5 U	5000 U	5 U	5000 U	5 U	5 U	5 U	5 U	NLE
Chlorobenzene	4 U	4000 U	4 U	5000 U	5 Ú	5 U	5 U	5 U	10
thylbenzene		7600X		4000 U	4 U	4 U	4 U	4 U	5
ityrene	5 U	5000 U	5 U	7 600F	5 U	5 U	5 U	5 U	700
romoform	4 U	4000 U	4 U	4000 U	5 0	5 U	5 U	5 U	100
,1,2,2-Tetrachloroethane	2 U	2000 U	2 U	2000 U	4 U	4 U	4 U	4 U	4
(ylene (total)	5 U	10001114		2000 U	2 U	2 Ü	2 U	2 U	2
otal Target VOCs	0	248600	3	245600	1 J	5 U	5 U	5 U	40
otal TICs	0	0		248600	259	0	31	12	
					0	0	6	0	



Appendix C Well Permits, Soil Boring/Well Construction Logs, Well Development Information, Survey Maps

				L	UG U	1 1 E 2	BORING	NDING NO	\$8\$440 a
	47	MI	y ====					ORING NO	
	1		•			L. E. C	rpenter PR		
	LC	CATI	ÓN			Warton,	NJ INS	STALLATION	2/17/98
	C	ONTRA	ACTOR _		Aqı	uifer Testi	ng & Drilling SU	JRFACE ELEV	
							ry Hammer BO		
			SAMPL				1		
	INT	ERVAL	. REC	OVERY	/ PID	DEPTH		ASSIFICATION	WELL
	NO.	TYPE	N	IN	ppm	DEFIN		. OBSERVATIONS	ح ا
							GRASS/TOPSOIL		
							ar a		
							Pid		-
]		e l	,	-
		SS	T T		ĺ		6 1 d		
						_	WELL GRADED SAND	NAVITU CILT AND	CRAVEL
	A		27-20 12-8		1.0	,	(SP-SM), brown, mois		GRAVEL
		00	12-0						
		SS	4			,	6 9		
	В		22-12	6	1.7	5—	SAME AS ABOVE		
			12-8	0	1.7	}			
		SS	1		1	-			
		33]				
	c		14	4	0.4	-	SAME AS ABOVE, col	bble in spoon tip.	
			100/4		0.4				
		SS	W. The state of th			-	l o		
		00					9		
	ם		100/2	3	1.2	 ¥	SAME AS ABOVE, col	bble in spoon tip,	moist to
	-		4			≝	ြို့ wet.		
		SS				10	ar i		
			1						
	E		50/0	0			NO RECOVERY		
			₹ ₩		Ì				
		SS					[]		
	F		100/1	2	23	-	WELL GRADED SAND		sw), 📙
							brown, wet, hydrocarb	oon odor.	
		SS				-			
	G		를 11-11	12	0.2	15-	POORLY GRADED SAM		
			5-3				red-brown and black la matrix.	imina in light bro	wn 🔚
-		l				1	and the state of t	RING AT 16 FEET	
							2.1.2 0. 201	IIII AI IOI EEI	
			GENER	AL NO	TES	· · · · · · · · · · · · · · · · · · ·	WATER LE	VEL OBSERVATION	ONS
10-9£	DATE	STAR	TED		2-17-	98		9.4	
38683 4-10-98			PLETED						
888	RIG _		Reach	Drill 1	r650W	<u> </u>	AFTER DRILLING		
Valew 3	CREW	CHIE	F	Jeff	Jawor	ski	CAVE-IN: DATE/TIME		тн
힑	LOGG	ED!	E.M.V.	CHE	CKED	S.C.	WATER: DATE/TIME	DEF	тн

				F.	JG U	L IE2	I R	OKING	j	BO.	DING NO		B.01.4.4.		
	TAM	7 ~									RING NO.	-			
			NAME			L. E. C	ame	nter		20 20	OJECT NO.	$\frac{1}{\sqrt{1}}$	OF		
1 1	OCAT	101	N			Warton,	N.I	11161					3868.03 2/17/98		
						ifer Testi					REACE EL		2/17/98	<u> </u>	
						Air Rota				BO	REHOLE D		10 IN.		
-		_	SAMPL								TILLIOLL D	<u> </u>	IO IN.		
1017	TERVA			VERY		T	1	VISUAL CLASSIFICATION							
	TYPI	_	N			DEPTH			AND GE	NERAL	OBSERVA	TION	S	WELL	
140.	SS	-	IV	IIN	ppm	 		GDAS	S TOP S	<u> </u>					
		4						GRAS.	5 TOP 30					 	
A			9-8 7-8	12	0.0	_	10/2	WELL (SW-S	GRADED M), red-l	SAND brown.	WITH SIL	TAN	D GRAVEL	4	
ļ	- SS	A STATE OF THE STA													
В			7-9 13-37	4	0.0	_	000	WELL brown,	GRADED , red-bro	SAND wn at a	WITH GR. bout 3.8 f	AVEL t, mo	(SW), ligh ist.	t	
	SS	III.			1									M	
С		in little little	3-5 5-4	16	0.0	5		WELL (GRADED M), red-b	SAND prown, r	WITH SILT	T AND	O GRAVEL		
ļ	SS	The last				-	/%								
D		Married and Married	6-5 7-9	14	2.6	_	19	SAME	AS ABO	VE					
	SS					_	199			1					
E	65		7-9 14-16	6	0.0	¥ 10—	19	SAME A	AS ABO\	VE, moi	st to wet,	cobb	le in spoor		
	SS							*1							
F		Marilla and Maria	19 50/5	2	0.0		0000	WELL C	RADED wn, wet.	SAND \	WITH GRA	VEL ((SW),		
	SS	₹ E					0								
		¥			F		0 0	NO DEC							
G			6-7 8-9	0			, "	NO REC	OVERY	*					
		T T	0-9			- (·	9								
	SS	W					, ° a								
н			11-12 15-17	6	71	15—	0.000	SAME A	AS ABOV	E, gray	to black.				
		1	Ĭ			+	0.7		END O	F BORII	NG AT 16	FFFT	•		
			ļ	ŀ						•					
		<u> </u>	SENERA	L NOT	TES	L.	+		WAT	ER LFV	EL OBSER	VATIO	ONS		
DATE	GENERAL NOTES WATER LEVEL OBSERVATIONS ATE STARTED WHILE DRILLING WHILE WHILE														
			TED _				- ,		PLETION	= -		9.7 f	eet		
			Reach					AFTER D		÷ —		<u>U.7 1</u>			
CREW	V CHIE	F _		Jeff J	awors	ki	-			:		DEP	тн		
			1.V.				_ v	VATER: I	DATE/TIME	====		DEP			

N3LBW 38683 4-10-98

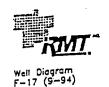
			LC)G O	F TEST	BORING	BORING NO.	MM 44DD					
47	RMT.	.					SHEET NO. 1	OF 5					
P	ROJECT	NAME _			L. E. Car	penter	PROJECT NO.	3868.03					
L(OCATIO	Ν			Warton, I	VJ	INSTALLATION _	2/20/98					
C	ONTRA	CTOR	 :	Agu	<u>ifer Testin</u>	g & Drilling	SURFACE ELEV.						
D	RILLING				Air Rotar	Hammer BOREHOLE DIA. 10 IN/6 IN.							
		SAMPLI				VISUAL	CLASSIFICATION	WELL					
	ERVAL		٦.		DEPTH		RAL OBSERVATION	S					
NO.	TYPE	N	IN	ppm		q		> (
A B C D E F G H		86 100/3 58 100/3	3 4 4 6 6 6		10	LEAN CLAY WITH- gravel, reddish bro WELL GRADED SA to coarse grained SAME AS ABOVE Clay. WELL GRADED SA gravel, gray, fine to SAME AS ABOVE SAME AS ABOVE SAME AS ABOVE Note: set a six incl ground surface to	AND WITH GRAVEL sand. AND (SW), with trace occurred sand. AND (SW), with trace occurred sand.	s of silt and e to little and.					
8		GENERA					R LEVEL OBSERVAT						
71	START					WHILE DRILLING	₹						
E RIC		ETED Reach l			3 8	AT COMPLETION	<u> </u>	<u> </u>					
E CREW		Reach			ki	AFTER DRILLING		DTU.					
		M.V. (CAVE-IN: DATE/TIME _ WATER: DATE/TIME _		PTH					
z		···· `		· •	.0.0.	AUTHOR PAIGHINE -	DE	PTH					

					LC	G O	F TEST	BORING	POPING NO		
	=7	M	*						BORING NO SHEET NO2	MW-11DR	
				AME _			L. E. Ca	rpenter	PROJECT NO.	3868.03	—
	L(OCATI	ON _				Warton,	NJ	INSTALLATION	2/20/98	
	C	ONTR	ACTO	OR		Aqu	ifer Testir	g & Drilling	INSTALLATION SURFACE ELEV		
	D	RILLIN	IG MI	THOL)		Air Rota	y Hammer	BOREHOLE DIA	10 IN/6 IN.	 .
						OTES	,	VISUAL	CLASSIFICATION		WELL
		ERVAL	-		٦	ł	DEPTH		RAL OBSERVATION		VEL N
		TYPE		N	IN	ppm		Jay			1>5
			المراقبة الممال الممال ممالا معالم الممال الممال الممالات		10		35—	WELL GRADED G to coarse gravel,	RAVEL WITH SAND coarse sand.	(GW), fine	
		SS	All colling the said and local said and				40-	SAME AS ABOVE	:		
	J	SS			24		45	SAME AS ABOVE			
-	К				20						
	L	SS	أعلمهم أأالم أعراق المعاقل معاراة معمالا		16		50—— C	SAME AS ABOVE			
	M	SS			24		55 - 00	POORLY GRADED	GRAVEL (GP)		
38683 4-10-98	N	SS			24		60 - 00 - 00	SAME AS ABOVE		# # # # #	
N3LBW 38		,					65—0			- To	

	H Lagra	·	LC)G O	F TEST). <u>MW-11</u> DR	
-	K <u>MI</u> ,						3 OF5	
	COCATION	NAME _			IO. <u>3868.03</u> ION <u>2/20/98</u>			
							LEV	
							DIA. 10 IN/6 IN.	
		SAMPLII	NG N	OTES		VICILAL CLASSIFICA	TION	
	TERVAL	RECO'	VERY	PID	DEPTH	VISUAL CLASSIFICA AND GENERAL OBSERV		WELL
NO	. TYPE	N	IN	ppm	DLI III	AND GENERAL OBSERV	ATIONS	≥ 8
4-10-98			18		70— 	SAME AS ABOVE, with clayey spoon tip. NOTE: the driller believes that samples may be biased with to settling when the mud pump prior to collecting split spoon s description from below 72 feet cutting observation. FINE TO COARSE SAND, little (DM means drilling mud sample) SAME AS ABOVE	the split spoon to much gravel due to is turned off ample. All soil tis from mud	
N318W 38683					100—			****

	PMT*		LC	G O	F TEST	BORING	BORING NO.	MW-11DR	
	ROJECT	NAME			I. F. Ca	rpenter	OLICE 140'	OF <u>5</u>	
	OCATION	1 1421à15 —			Warton,	NJ	INSTALLATION _	2/20/98	
C	ONTRAC	TOR		Aqui	ifer Testir	g & Drilling	SURFACE ELEV.		 -
D						γ Hammer	BOREHOLE DIA.	10 IN/6 IN.	
<u>-</u>		SAMPLI			r	VISUAL	CLASSIFICATION		17.
	TYPE	N	7	ļ	DEPTH	AND GENE	RAL OBSERVATION	1 S	WELL
NO.	DM A	N			105	SAME AS ABOVE			
					110	SAME AS ABOVE			· 《 · · · · · · · · · · · · · · · · · ·
	DM A				125—	SAME AS ABOVE		沙理 沙理 沙理 沙理 沙理 沙理 沙理 沙雷	· · · · · · · · · · · · · · · · · · ·
38683 4-10-38					130				
N3LBW 38683	DM 4				135	SAME AS ABOVE		######################################	

PROJECT NAME		LOG C	F TEST	BORING		*	
PROJECT NAME	KMT*						
CONTRACTOR Aquifer Testing & Drilling SURFACE ELEV. DRILLING METHOD Air Rotery Hammer BOREHOLE DIA. 10 IN/6 IN. SAMPLING NOTES INTERVAL RECOVERY PID N IN Ppm DEPTH AND GENERAL OBSERVATIONS NO. TYPE N IN Ppm DEPTH AND GENERAL OBSERVATIONS 140— SAME AS ABOVE 150— DM 2	PROJECT	MF	L. E. Carr	aenter :			
CONTRACTOR Aquifer Testing & Drilling SURFACE ELEV. DRILLING METHOD Air Rotery Hammer BOREHOLE DIA. 10 IN/6 IN. SAMPLING NOTES INTERVAL RECOVERY PID N IN Ppm DEPTH AND GENERAL OBSERVATIONS NO. TYPE N IN Ppm DEPTH AND GENERAL OBSERVATIONS 140— SAME AS ABOVE 150— DM 2	LOCATION	-	Warton, N	J I	INSTALLATION	2/20/98	
DRILLING METHOD SAMPLING NOTES INTERVAL RECOVERY PID NO. TYPE NO. TYPE DM 4 145 DM 4 155 MS Granite bedrock at 156 feet. Drilled to 165 feet. MS Granite bedrock at 156 feet. Drilled to 165 feet.	CONTRAC	R Aq	uifer Testing	& Drilling	SURFACE ELEV.		
INTERVAL RECOVERY N IN PID DEPTH AND GENERAL OBSERVATIONS NO. TYPE N IN PID DEPTH AND GENERAL OBSERVATIONS 140— SAME AS ABOVE 155— //// //// Granite bedrock at 156 feet. Drilled to 165 feet.	DRILLING I	THOD	Air Rotary				
NO. TYPE N IN ppm DEPTH AND GENERAL OBSERVATIONS 140— SAME AS ABOVE 150— 150— 155— M. Granite bedrock at 156 feet. Drilled to 165 feet.		MPLING NOTES		VICUAL C	N ACCIEICATION	——————————————————————————————————————	E
NO. TYPE N IN ppm 140— 145— SAME AS ABOVE 150— 155—	INTERVAL	RECOVERY PID	DEPTH			,	WELL
DM 4 145—SAME AS ABOVE 150— 155— Main and a second of the second of	NO. TYPE	N IN ppm	DEFIN	AND GENERA	AL OBSERVATIONS) 	≯ <u>;</u>
END OF BORING AT 165 FEET Well MW-11DR set to a depth of 157 feet. Well MW-11DI set to a depth of 52 feet in a separate boring.			145	END OF BO Well MW-11DR set to Well MW-11DI set to	ORING AT 165 FEET to a depth of 157 fo	Feet.	



PROJECT NAME :	L. E. Carpenter	
PROJECT NO. :	3868.03	
LOCATION:	Wharton, NJ	
DATE INSTALLED :	2/17/98	
WELL NO.	MTW 1 Q _ 1	
PREPARED BY:	Eric VanHyde	

MONITORING WELL CONSTRUCTION

	TOP OF WELL		CONCRETE	1) Casing Details
-	_ CASING ELEVFT.		SEAL/PAO	A) TYPE OF PIPE:
Å				PVC /STAINLESS / TEFLON / OTHER
	CROUND SURF.		DEPTH FROM CROUND SURF.	PIPE SCHEDULE
	F.1.		£	PIPE DIAMETER LD. 4 In., c.d. In.
			5 Ft.	B) TYPE OF PIPE JOINTS:
	BENTONITE: PELLETS/GRANULAR/POWDER			SLIP / THREADED) (W CAPE ?) / OTHER
			_{-8' स} र र र र र र र र र	SOLVENT CEMENT: YES OR (NO)
		11 1-1		C) TYPE OF WELL SCREEN:
	BACKFILL MATERIAL	-		PVC /(STAINLESS) / TEFLON / OTHER
3414	Portland Cement w/ 5% Bentonite	1' 1 1 1		SLOT SIZE: IN.
			_8FT.	SCREEN DIA: LD. IN 0.D. IN
SOLID		[1]	•	D) INSTALLED PROTECTOR PIPE W/LOCK ? (YES)OR N
- J				
	BACKFILL METHOD: PIPE TREMIE/AUCER TREMIE/			PROTECTOR PIPE DIA IN. LOCK NO 2) WELL DEVELOPMENT
LENCIH	CRAVITY FILLED	[1]	2 -	
_			<u>2</u> г.	A) METHOD
	BENTONITE:			BAILING/PUMPING/SURGING/COMPRESSED AIR/OTHER
	PELLETS/GRANULAR/POWDER			
		A. W.	<u> 4 </u> гт.	B) TIME SPENT FOR DEVELOPMENT
1	SILICA SAND:			C) APPROXIMATE WATER VOLUME: REMOVED
			تعر	G300A
1				D) WATER CLARITY:
<u> </u>	FILTER PACK		_6F.	BEFORE DEVELOPMENT -
3 1	#1 Unimin Sand			CLEAR / TURBID / OPAQUE
WELL SCREEN	GAILU			AFTER DEVELOPMENT -
				CLEAR / SLIGHTLY TURBID / TURBID / CPAQUE
₹ 🖠	WELL BOTTOM		16 =	E) ODOR ? YES OR NO
	ELEV		17 F	3) WATER LEVEL SUMMARY
	SEAL MATERIAL:	→		A) DEPTH FROM TOP OF CASING AFTER DEVELOPMENT 1
		100	 ਜ.	
		10.5		FT. OR DRY
	BACKFILL MATERIAL:	-		B) OTHER MEASUREMENTS (T.O.C.):
			Fī.	DATE / TIME DEPTH
				CATE / TIME DEPTH
				DATE / TIME
	ADDITIONAL COUNCERS.	Six-inch	sump in w	ell bottom. Therefore
	ADDITIONAL COMMENTS:			15.5 ft. BGL
				10.0 10. 10.
	•			



PROJECT NAME :	L. E. Carpenter	
PROJECT NO. :	3868.03	
LOCATION:	Wharton, NJ	
DATE INSTALLED :	2/17/98	
WELL NO.	MW-19-2	
PREPARED RY	Eric VanHyde	

MONITORING WELL CONSTRUCTION

				•
	TOP OF WELL	Γ	- CONCRETE	1) CASING DETAILS
_	CASING ELEVFT.		SEAL/PAD	A) TYPE OF PIPE:
	<u>A</u> i	[]		PVC / FTAINLESS / TEFLON / OTHER
	CROUND SURF.		DEPTH FROM CROUND SURF.	PIPE SCHEDULE
	FI.5VFT.	XX		PIPE DIAMETER I.D. 4 IN. O.DIN.
			Fī.	B) TYPE OF PIPE JOINTS:
	BENTONITE: PELLETS/GRANULAR/POWDER			SLIP / THREADED (W PAPE ?) / OTHER
		月 月	,	SOLVENT CEMENT: YES OR (NO)
				C) TYPE OF WELL SCREEN:
	BACKFILL MATERIAL:			PVC / (STAINLESS) / TEFLON / OTHER
PIPE	Portland Cemen w/ 5% Bentoni			SLOT SIZE 0.01 IN.
			<u>8</u> _FT.	
1 SOLID		14 [4		SCREEN DIA: LD. IN 0.D. IN
_FT. 6	·	F1 []		D) INSTALLED PROTECTOR PIPE W/LOCK ? (FES)OR
Ę.	BACKFILL METHOD: PIPE TREMIE/AUGER TREMIE/			PROTECTOR PIPE DIA _6 IN. LOCK NO
ENGTH	CRAVITY FILLED	[4] [4]	_	2) WELL DEVELOPMENT
			2r _ī .	A) METHOD
				EALLING/PUMPING/SURGING/COMPRESSED AIR/OTHER
	BENTONITE: PELLETS CRANULAR POWDER			· · · · · · · · · · · · · · · · · · ·
		20 00	<u>. 4</u> . гт.	B) TIME SPENT FOR DEVELOPMENT
•				C) APPROXIMATE WATER VOLUME: REMOVED
	SIUCA SAND:		5 - Sep	ADDED
				D) WATER CLARITY:
	FILTER PACK		<u>6</u> FT.	BEFORE DEVELOPMENT -
EEN	MATERAL:			CLEAR / TURBID / OPAQUE
SCRE NGTH	#1 Unimin Sand			
7 FI. 35 11 7		(XF-1/A)		AFTER DEVELOPMENT -
WELL S	MELL BOTTOM			CLEAR / SLIGHTLY TURBID / TURBID / OPAQUE
_!	ELEV.		16 F.	E) ODOR ? YES OR NO
	SEAL MATERIAL:	-		3) WATER LEVEL SUMMARY
		.,	FT.	A) DEPTH FROM TOP OF CASING AFTER DEVELOPMENT
		1776-		FT. OR DRY
	BACKFILL MATERIAL			B) OTHER MEASUREMENTS (T.O.C.):
		11	FT,	DATE / TIMEDEPTH
				DATE / TIME DEPTH
				DATE / TIME DEPTH
				1
	100000	No s	omu.	
	ADDITIONAL COMMENTS:		F	



Well Diagram F-17 (9-94)

PROJECT NAME :	L. E. Carpenter	-
PROJECT NO. :	3868.03	•
LOCATION:	Wharton, NJ	
DATE INSTALLED :	2/18/98	
WELL NO.	MW-19-3	
PREPARED BY:	Eric VanHyde	

MONITORING WELL CONSTRUCTION

	TOP OF WELL		- CONCRETE	1) CASING DETAILS
-	CASING ELEVFT.		SEAL/PAD	A) TYPE OF PIPE:
	1			PVC / STAINLESS / TEFLON / OTHER
	CROUND SURF.		DEPTH FROM CROUND SURF.	PIPE SCHEDULE
	ELEV.			PIPE DUMETER LD. 4 IN. O.DIN.
	BENTONITE:		FI.	B) TYPE OF PIPE JOINTS:
	PELLETS/GRANULAR/POWDER			SUP (THREADED) (W CANE ?) / OTHER
			ГТ.	SOLVENT CEMENT: YES OR (10)
	BACKFILL MATERIAL:			C) TYPE OF WELL SCREEN:
	Portland Cemer	at [1]		PVC /STAINLESS / TEFLON / OTHER
PIPE	w/ 5% Bentonit	e [1] [1]	<u>8</u> FT.	SLOT SIZEO O1 IN.
a solio		日同		SCREEN DIA: LD. IN O.D. IN
				D) INSTALLED PROTECTOR PIPE W/LOCK ? YES OR NO
			•	PROTECTOR PIPE DIA 6 IN. LOCK NO.
LENCIN	PIDE TREVIE AUGER TREVIE/	14 14	2	2) WELL DEVELOPMENT
			2 FI.	A) METHOD
				BAILING/PUMPING/SURGING/COMPRESSED AIR/OTHER
	BENTONITE: PELLETS (CRANULAR) POWDER		4	
		78 FF	4F.	B) TIME SPENT FOR DEVELOPMENT
•	SILICA SANO:			C) APPROXIMATE WATER VOLUME: REMOVED
	SICICA SARU:		44	AODED
				D) WATER CLARITY:
-	FILTER PACK		<u>6</u> FT.	BEFORE DEVELOPMENT -
SCREEN 10 Ft. SC	#1 Unimin Sand			CLEAR / TURBID / OPAQUE
10_F1. 🎖 💆				AFTER DEVELOPMENT -
WELL				CLĘAR / SLIGHTLY TURBID / TURBID / OPAQUE
*	WELL BOTTOM		16 FT.	E) ODOR ? YES OR NO
_	SEAL MATERIAL:		16.0T	3) WATER LEVEL SUMMARY
	SEAL MATERIAL!		FT.	A) DEPTH FROM TOP OF CASING AFTER DEVELOPMENT ?
				FT. OR DRY
	BACKFILL MATERIAL:			B) OTHER MEASUREMENTS (T.O.C.):
		,'	fī.	DATE / TIME DEPTH
				DATE / TIME DEPTH
				DATE / TIME DEPTH
	ADDITION AND ADDITION	6" Sump in	well botto	om. Therefore actual
	ADDITIONAL COMMENTS:	screen @ 6	-15.5 ft. H	BGL
				
				



PROJECT NAME :	L. E. Carpenter	·-
PROJECT NO. :	3868.03	
LOCATION:	Wharton, N.J	
DATE INSTALLED : _	2/18/98	
WELL NO.	MW-19-4	
	Eric VanHyde	

MONITORING WELL CONSTRUCTION

	TOP OF WELL	. 1	- CONCRETE SEAL/PAD	1) CASING DETAILS	
-	_ CASING ELEVFT.		35ALY:FAU	A) TYPE OF PIPE:	
			<u></u>	PVC / STAINLESS / TEFLON / OTHER	
	CROUND SURF.		DEPTH FROM GROUND SURF.	PIPE SCHEDULE	
İ	ELEVFT.	88	§	PIPE DIAMETER I.D. 4 IN. O.D.	IN.
	BENTONITE:		FT.	B) TYPE OF PIPE JOINTS:	
	PELLETS/GRANULAR/POWDER			SUP / (HIREADED (W/TAFE ?) / OTHER	₹
		88	F	SOLVENT CEMENT: YES OR (NO	
				C) TYPE OF WELL SCREEN:	
	Portland Cement	. 11		PVC (STAINLESS / TEFLON / OTHER	
PIPE	w/ 5% Bentonite			SLOT SIZEO O1 IN.	
			<u>8</u> .ft.	SCREEN DIAL I.D. IN O.D. IN	
8_FI.		[1] [1]		D) INSTALLED PROTECTOR PIPE W/LOCK ?	
9		[1]		PROTECTOR PIPE DIA 6 IN. LOC	
LENCIN	BACKFILL METHOD: PIDE TREMIE/AUGER TREMIE/			2) WELL DEVELOPMENT	, ,
E	CRAVITY FILLED		2_ =	A) METHOD	
				BAILING/PUMPING/SURGING/COMPRESSEE	AR/OTHER
	BENTONITE:				
	PELLETS/GRANULAR/POWDER		4_Fī.	B) TIME SPENT FOR DEVELOPMENT	
	***	R R		C) APPROXIMATE WATER VOLUME: REMOVE	
	SILICA SÄND:			ADDED	
			***	2000	
1				(D) WATER CLARITY:	
	_ FILTER PACK NATERIAL:		<u>6_</u>	BEFORE DEVELOPMENT -	
CO.FT. SCHEEN	#1 Unimin Sand			CLEAR / TURBID / OPAQUE	
៤៤ក. នីទ្ទី				AFTER DEVELOPMENT -	
WELL CEI				CLEAR / SLICHTLY TURBIO / TURBIO /	OPAGUE
<u> </u>	WELL BOTTOM ELEV.		_16_F.	E) ODOR ? YES OR NO	
			FT,	3) WATER LEVEL SUMMARY	
	SEAL MATERIAL:		FT.	A) DEPTH FROM TOP OF CASING AFTER DEV	ELOPMENT ?
	·	[]		FT. OR DRY	
	SACKS LATERIAL.			B) OTHER MEASUREMENTS (T.O.C.):	
	EACKFILL MATERIAL:		Fī.	DATE / TIME	DEPTH
				DATE / TIME	DEPTH
				DATE / TIME	DEPTH
	•			actic \ time	
,		6" 5111	nn @ waii h	ottom. Therefoe actual	
	ADDITIONAL COMMENTS:		n is @ 6-15		
				_	



PROJECT NAME :	L. E. Carpenter	
PROJECT NO. :	3868.03	
LOCATION:	Wharton, NJ	
DATE INSTALLED :	2/18/98	
WELL NO.	MW-19-5	
PREPARED BY:	Eric VanHyde	

MONITORING WELL CONSTRUCTION

CASING ELEV FT. CROUND SURF. ELEV FT. BENTONITE: PELLETS/GRANULAR/POWDER		DEPTH FROM GROUND SURF.	A) TYPE OF PIPE: PVC / STAINLESS / TEFLON / OTHER PIPE SCHEDULE PIPE DIAMETER LD. 2 IN., O.D. IN. B) TYPE OF PIPE JCINTS:
BENTONITE: PELLETS/GRANULAR/POWDER		GROUND SURF.	PIPE SCHEDULE
BENTONITE: PELLETS/GRANULAR/POWDER		GROUND SURF.	PIPE DIAMETER LD. 2 IN., O.D. IN.
BENTONITE: PELLETS/GRANULAR/POWDER		§	
PELLETS/GRANULAR/POWDER		F7.	B) TYPE OF PIPE JOINTS:
PELLETS/GRANULAR/POWDER			
	月月		SLIP / THREADED (W/TIPE ?) / OTHER
MARIONA HARRIAL.		FT.	SOLVENT CEMENT: YES OR (NO)
ALOUGH LIAMONIAL .			C) TYPE OF WELL SCREEN:
BACKFILL MATERIAL			FVC V STAINLESS / TEFLON / OTHER
Portland Cement w/ 5% Bentonite	1.7 7 7		SLOT SIZED OL IN.
W/ J/O Delicolitics	- ; }-	<u>8</u> FT.	SCREEN DIA: LD. IN O.D. IN
	1111		D) INSTALLED PROTECTOR PIPE W/LOCK ? YES OR NO
			PROTECTOR PIPE DIA _6_ IN. LOCK NO
BACKFILL METHOD: PIRE TREMIE/AUGER TREMIE/			
CRAVITY FILLED	[1]	2 _	2) WELL DEVELOPMENT
		Fī.	A) METHOD
BENTONITE.		4	BAILING/PUMPING/SURGING/COMPRESSED AIR/OTHER
PELLETS CRANULAR POWDER		°,	
	76 (W)	<u>4</u> FT.	B) TIME SPENT FOR DEVELOPMENT
SILICA SAND			C) APPROXIMATE WATER VOLUME: REMOVED
		* }	ADDED
			D) WATER CLARITY:
FILTER PACK		<u>6</u> F1.	BEFORE DEVELOPMENT -
			CLEAR / TURBID / OPAQUE
дани			AFTER DEVELOPMENT -
		,	CLEAR / SUIGHTLY TURBID / TURBID / OPAQUE
WELL BOTTOM		16 ~	E) ODOR ? YES OR NO
ELEV.		16 FT.	3) WATER LEVEL SUMMARY
SEAL MATERIAL:		-	A) DEPTH FROM TOP OF CASING AFTER DEVELOPMENT ?
	(/		FT. OR DRY
	195		B) OTHER MEASUREMENTS (T.O.C.):
BACKFILL MATERIAL:			DATE / TIMEDEPTH
	1	F.	
•			DAIS / TIME
			DATE / TIME DEPTH
ADDITIONAL COUNTRIES	6" Sump i	n well bott	m, therefore actual
COMMENTS:	screen @	6-15.5 ft.	BGL
			
	BACKFILL METHOD: PIZE TREMIE/AUCER TREMIE/ CRAVITY FILLED BENTONITE: PELLETS GRANULAR POWDER SILICA SAND: FILTER PACK MATERIAL: #1 Unimin Sand WELL BOTTOM ELEV.	BACKFILL METHOD: PIZE TREMIE/AUGER TREMIE/ GRAVITY FILLED BENTONITE: PELLETS GRANULAP POWDER SILICA SAND: #1 Unimin Sand WELL BOTTOM ELEV. SEAL MATERIAL: BACKFILL MATERIAL: #2 Sump i	BACKFILL METHOO: PIES TREMIE/AUGER TREMIE/ GRAWITY FILLED 2 FT. BENTONITE: PELLETS GRANULAE/POWDER 4 FT. SILICA SAND: FILTER PACK MATERIAL: #1 Unimin Sand WELL BOTTOM ELEV. SEAL MATERIAL: BACKFILL MATERIAL: FT. 6 II SUMD in vol 1 both.



PRO	DJECT NA	ME: <u>L.I</u>	E. Carpente	r	WELL:	NUMBER: <u>I</u>	MW-19-1	
PRO	DJECT NU	MBER:_		3868.03	WELL:	DIAMETER	<u>4"</u>	
DA'	ГЕ:	2/2	7/98		SÄMPI	LER: <u>ENVIR</u>	OTECH	
Тур	e Of Pum	p Used:_	Wha	ler Pump				
Pun	nping Rate	e (gallon/	minute):	2 gpm				
Wat	er level b	efore pur	ging (neare	st 0.01 ft. be	low refere	nce point) <u>1</u>	0.44 feet	
Dep	th to bott	om of we	ll (obtained	l from well	logs) <u>17.98</u>	3 feet	•	
Calo	ulated vo	lume of v	water in cas	ing	5 Gallo	ns (1 Volum	e)	
Wea	ther cond	itions		N/A				
Date	Well	рН 🔭	Turbidity	Condu	ctivity and	Temperature	Pump Depth	Cumulative:
	Volume .	and the second		Units:				Purge Volume:
	" (gal)	" (Units)	The state of the same of the state of the st	Uncorrected	TO SECURE SECURE	(°C)	(0.01 ft.)	(gal)
27/98	1	8.92	Moderate	584	381	53.0	11	5
27/98	3	8.92	Moderate	579	377	53.0	14	15
27/98	5	8.92	Moderate	576	377	52.6	15	25
27/98	7	8.91	High	536	352	52.4	16	35
27/98	9	8.91	High	527	346	52.4	17	4.5
· · · · · · · · · · · · · · · · · · ·		<u> </u>						
					:			
				- 1				
		· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·
						-		
NOTE: LIMIT	STABILIZA S: pH - <u>+</u> 0.1 p	TION TEST H; COND	IS COMPLETE ±5%, TEMP (Co	E WHEN 3 SUC ORRECTED); T	CESSIVE REA EMP <u>+</u> 0.5°c;	DINGS ARE WIT	THIN THE FOLI	LOWING
								,
Signe	d			Date	QC'd By		Date	



PRC	JECT NA	ME: <u>L.E</u>	. Carpenter	· · · · · · · · · · · · · · · · · · ·	WELL I	VUMBER: N	MW-19-2	
PRC	JECT NU	MBER:_		3868.03	WELL I	DIAMETER:	<u>4 "</u>	
DAT	re:	2/2	7/98	·	SAMPI	ER: ENVIR	OTECH	
Typ	e Of Pum	p Used:	Wha	ler Pump	<u> </u>			
Pum	ping Rate	gallon/	minute):	2 gpm		· · · · · · · · · · · · · · · · · · ·		
Wat	er level be	fore pur	ging (neare:	st 0.01 ft. be	low refere	nce point) <u>1</u>	0.56 feet	
Dep	th to botte	om of we	ll (obtained	from well	logs) <u>18.03</u>	feet		
Calc	ulated vo	lume of v	vater in cas	ing	5 Gallor	ns (1 Volum	e)	
Wea	ther cond	itions		N/A		· · · · · · · · · · · · · · · · · · ·		
Date.	Well	pH	Turbidity	Condu	ctivity 🖓 🚉 🎏	.Temperature	Pump Depth	- Cumulative
	Volume	-		Units:	uS/cm			Purge Volume;
and the second	(gal)	(Units)	(NTU)	Uncorrected	Corrected **	(°C)	(0.01 ft.)	(gal) 🗧
27/98	1	9.36	Moderate	637	403	55.5	12	5
27/98 27/98	3 5	8.36	Moderate	666	421	55.5 55.5	13	15 25
27/98 27/98	7	8.31 8.37	High High	732 742	463 471	55.5 55.1	14	35
27/98	9	8.39	High	742	473	54.9	18	45
27/30		0.55	Ingn	, i o	47.0	J4.7	10	
					*-			
						. 4		
							· · · · · · · · · · · · · · · · · · ·	·, ·
	· · · · · · · · · · · · · · · · · ·							
							4	
					Charles VSCs	¥		and the second s
						DINGS ARE WI TURBIDITY ±10	THIN THE FOL	LOWING
					•			
Signe		· · · · · · · · · · · · · · · · · · ·	 	Date	OC'd By	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1) 		



PRO	JECT NA	ME: <u>L.E</u>	. Carpentei	r	WELL 1	NUMBER: 1	MW-19-3	t
PRO	JECT NU	MBER:_		3868.03	WELL I	DIAMETER	: <u>4 "</u>	
DA	ГЕ:	2/2	7/98		SAMPI	ER: ENVII	ROTECH	
Тур	e Of Pum	p Used:	Wha	ler Pump		•		
Pun	ping Rate	e (gallon/:	minute):	2 gpm				
Wat	er level be	efore pur	ging (neare	st 0.01 ft. be	low refere	nce point) 1	1.26 feet	
Dep	th to botte	om of we	ll (obtained	l from well	logs) <u>17.95</u>	feet		
						ns (1 Volum	e)	
				N/A				
Date	Well :	PH ···	Turbidity	Condu	ctivity ######	«Temperature»	Pump Depth	Cumulative
7. A	Volume			Units:		Temperature	Tump Deptit	Purge
	(gal)	(Units)	(טוע)	Uncorrected	Corrected	(°C)	*(0.01 ft.)	Volume; (gal)
27/98	1	9.48	Moderate	<i>7</i> 55	464	57.9	12	5
27/98	3	9.48	High	751	461	57.9	13	15
27/98	5	9.36	High	749	462	57.6	14	25
27/98	7	9.18	High	721	454	55.8	16	35
27/98	9	9.15	High	715	451	55.6	17	45
					Na.			· · ·
								
						1		
								
NOTE:	STABILIZA 5: pH - ±0.1 p	TION TEST H; COND	IS COMPLETE ±5%, TEMP (Co	E WHEN 3 SUCO ORRECTED); T	CESSIVE REAL EMP ±0.5°c;	DINGS ARE WI TURBIDITY ±10	THIN THE FOL	LOWING
Signe	d		-	Date	QC'd By	,	Date	



						-		
PRO	DJECT NA	ME: <u>L.E</u>	. Carpenter	·	WELL	NUMBER: <u>1</u>	MW-19-4	
PRO	JECT NU	MBER:_		3868.03	WELL I	DIAMETER	: <u>4 "</u>	
DA	re:	2/2	7/98		SAMPI	LER: <u>ENVIR</u>	OTECH	
Тур	e Of Pum	p Used:	Wha	ler Pump				
Pun	nping Rate	gallon/	minute):	2 gpm	C. Market (1981)	<u> </u>	· · · · · · · · · · · · · · · · ·	
Wat	er level be	efore pur	ging (neare	st 0.01 ft. be	elow refere	nce point) 9	.03 feet	
Dep	th to botto	om of we	ll (obtained	l from well	logs) <u>17.76</u>	<u>feet</u>		
Calo	ulated vo	lume of v	vater in cas	ing	5 Gallo	ns (1 Volum	e)	
Wea	ther cond	itions		N/A				
Date *	Well	pН	Turbidity	Condu	ctivity .	Temperature	Pump Depth	Cumulative
	Volume		3.5	Units:				Purge Volume;
	(gal)	(Units)	(UTU)	Uncorrected	Corrected :	(°C)	(0.01 ft.)	(gal)
27/98	1	8.88	Moderate	936	590	55. <i>7</i>	10	5
27/98	3	8.76	High	937	597	54.8	12	15
27/98	5	8.51	High	948	605	54.7	13	25
27/98	7	8.23	High	921	588	54.6	16	35
27/98	9	8.17	High	916	584	54.7	17	45
·								
					Note that was a second of the			
			- 1					
								· · · · · · · · · · · · · · · · · · ·
	·							
NOTE	STABILIZA S: pH - ±0.1 p	TION TEST H; COND	IS COMPLETE ±5%, TEMP (C	E WHEN 3 SUC ORRECTED); T	CESSIVE REA EMP ±0.5°c;	DINGS ARE WI TURBIDITY ±10	THIN THE FOLI	LOWING
Signe	ed		<u> </u>	Date	QC'd By		<u></u> Date	<u>-</u>



PRO	DJECT NA	ME: <u>L.E</u>	. Carpenter		WELL	NUMBER: 1	<u>MW-19-5</u>	
PRO	JECT NU	MBER:_		3868.03	WELL	DIAMETER	: <u>2 "</u>	
DA'	ГЕ:	2/2	7/98		SAMP	LER: <u>ENVII</u>	ROTECH	
Тур	e Of Pum	p Used:	Wha	ler Pump				
Pun	nping Rate	e (gallon/:	minute):	2 gpm				
Wat	er level be	efore pur	ging (neare	st 0.01 ft. be	low refere	ence point) 1	10.74 feet	
Dep	th to botte	om of we	ll (obtained	l from well	logs) <u>18.2</u>	3 feet		
Calo	ulated vo	lume of v	vater in cas	ing	1.3 Gal	lons (1 Volu	me)	
								
	€ Well				Tell of the control o	Les man : 1 to the second of the second	Leave the Secretary was a second	real () and a section of the section of
Date :	Volume:	pH - vv.	Turbidity		tivity iS/cm ∄	Temperature	Pump Depth	Cumulative Purge
	(gal)	(Units)	(NTU)	Uncorrected	Corrected	(°C)	(0.01.ft.)	Volume; (gal)
27/98	1	8.99	Moderate	942	581	57.6	12	1.5
27/98	3	8.91	High	877	552	55.8	14	4.5
27/98	5	8.84	High	823	518	55.8	15	9.5
27/98	7	8.78	High	764	485	55.1	16	14.5
27/98	9	8.76	High	756	482	54.7	18	18
				· · · · · · · · · · · · · · · · · · ·				
					•			
		·						
								
	<u>. </u>						<u></u>	
NOTE LIMIT	: STABILIZA S: pH - <u>+</u> 0.1 p	TION TEST H; COND	IS COMPLET ±5%, TEMP (C	E WHEN 3 SUC ORRECTED); T	ESSIVE REAEMP ±0.5°c:	DINGS ARE WI TURBIDITY <u>+</u> 10	THIN THE FOL	LOWING
	-		•	**				
				 -	<u></u>	:		<u>.</u>
Signe	ed.			Date	QC'd By	•	Date	

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Name of Facility: Location:

NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: This number must be permanently affixed to the well casing.

<u>2 5 = 5 1 9 5 3 _ </u>

Longitude (one-tenth of a second) :

West	74° 34′ 44.0″
North_	40° 54′ 17.0"
	638.86
	л. w. – 19-1

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Keith W. Condit

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

L.S. No. 12808

PROFESSIONAL LAND SURVEYOR'S LICENSE

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Name of Facility: Location:

NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: This number must be permanently affixed to the well casing.

2 5 - 5 1 9 5 4

Longitude (one-tenth of a second) :

Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off)

(One-hundredth of a foot): inner well

(One-hundredth of a foot): inner well Owners Well Number (As shown on application or plans): West 74° 34' 44.0"

North 40° 54' 17.2"

638.76

M.w. - 19-2

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Keith W. Condit

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

L.S. No. 12808

PROFESSIONAL LAND SURVEYOR'S LICENSE

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Name of Facility:

Location:

NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: This number must be permanently affixed to the well casing.

2 5 - 5 1 9 5 5

Longitude (one-tenth of a second) :

Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off)
(One-hundredth of a foot): inner well

Owners Well Number (As shown on application or plans):

West 74°34'44.5"

North 40°54'17.1"

639.65

M.W. -19-3

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Keith W. Condit

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

L.S. No. 12808

PROFESSIONAL LAND SURVEYOR'S LICENSE

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Name of Facility:

Location:

NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: This number must be permanently affixed to the well casing.

2 5 - 5 1 9 5 6

West

Longitude (one-tenth of a second) :

Latitude (one-tenth of a second):
Elevation of Top of Casing (cap off)
(One-hundredth of a foot): inner well

(One-hundredth of a foot): inner well Owners Well Number (As shown on application or plans):

North 40° 54' 16.7"

74° 34' 44.0"

M.W. -19-4

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Keith W. Condit

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

L.S. No. 12808

PROFESSIONAL LAND SURVEYOR'S LICENSE

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: Name of Facility: Location:

NJPDES Number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation: This number must be permanently affixed to the well casing.

2 5 - 5 2 0 1 7

Longitude (one-tenth of a second) :

West 74° 34' 43.5"

North 40° 54' 17.3"

638.74

M.W. -19-5

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

Keith W. Condit

SEAL

PROFESSIONAL LAND SURVEYOR'S NAME (Please print or type)

L.S. No. 12808

PROFESSIONAL LAND SURVEYOR'S LICENSE

New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

Well Permit No.

	en and the state of the state of the		Atlas She	et Coordina	ites	. 18 9 1.
OWNER IDENTIFICATION - Owner	Contraction of the					
Address 1531 8 775 Oity 8 775 Avid	State		1 1		Zip Code	
WELL LOCATION - If not the same as ow CountyATAMAMAMAMAMAMAMAMAMAMAMAMAMAMAMAM	vner please give address. Municipality	Owner	s Well No Lo	t No	Block N	lo
TYPE OF WELL (as per Well Permit Cate Regulatory Program Requiring Well			Case I.	D.#	LL STARTED	<u> </u>
CONSULTING FIRM/FIELD SUPERVISO	R (if applicable)			· . · · · ·	Tele. #	1000
WELL CONSTRUCTION Total depth drilled ft. : Well finished to ft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter	Material	Wgt./Rating (lbs/sch no.)
vven unished toit.	Single/Inner Casing			- 1,		
Borehole diameter: Top in. Bottom in.	Middle Casing (for triple cased wells only)	e digere			•••	
Well was finished: above grade	Outer Casing (largest diameter)		<i>-</i> :-			
☐ flush mounted If finished above grade, casing height (stick	Open Hole or Screen (No. Used)		, ,	<i>j</i> -		1900
up) above land surface ft. Was steel protective casing installed?	Blank Casings (No. Used)		• •	ear-r	<u>-</u> -	
☐Yes ☐ No	Tail Piece					
Static water level after drillingft.	Gravel Pack	4	4,	2	3.4	1
Water level was measured using hours	Grout			2	Neat Cement Bentonite	lbs.
at gpm Method of development	G: D	routing Met	ethod		1 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
Was permanent pumping equipment installed	? ∐Yes ⊡ No		1	GEOLOG	alc LOG	
Pump capacitygpm Pump type:		Note ea			as encountered in o	consolidated
Drilling Fluid Type o	of Rig				-	t
Health and Safety Plan submitted? Tyes] No		·		-	
Level of Protection used on site (circle one)	None D C B A	17			-	
I certify that I have constructed the ab accordance with all well permit requir State rules and regul	ements and applicable					
Drilling Company	Tere 1					
Well Driller (Print)						
Driller's Signature						
Registration No.	 Date / /					

11.70

New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

	<u>mommonimum</u>		Well Per	mit No. 💴	5.217	
OWNER IDENTIFICATION - Owner	L. 7 (AP) SNMS	 ** *** ;		eet Coordina	ites	994
Address	State				Zip Code	77.7
City	State	<u> </u>			Zip Code	y.
WELL LOCATION - If not the same as ov CountyAddress	vner please give address Municipality	Owner'	s Well No Lo	ot No	Block	No.
Address			***************************************	DÁTE ME	II STARTER	2112.22
TYPE OF WELL (as per Well Permit Cate	egories) <u>error (19</u>	0	[Case I,	DATE WELL D.#	LL STARTED COMPETED STATEMENT 18	<u> </u>
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)		14.6	·	Tele. #	795 yea
WELL CONSTRUCTION	Note: Measure all depths	,				
Total depth drilledft. Well finished toft.	from land surface	Depth to Top (ft.)		Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
	Single/Inner Casing	7 -	1/2			2 - / 2
Borehole diameter: Top in. Bottom in.	Middle Casing (for triple cased wells only)		-	, u cor ne		-
Well was finished: above grade	Outer Casing (largest diameter)	-				_
flush mounted f finished above grade, casing height (stick	Open Hole or Screen (No. Used)	4	,		-	3/26
up) above land surface ft.	Blank Casings (No. Used)		1			
Vas steel protective casing installed? ☐Yes ☐ No	Tail Piece		-		•	
Static water level after drilling ft.	Gravel Pack	4	1 ,			
Vater level was measured using hours	Grout		Y	/	Neat Cement Bentonite	lbs. lbs.
tgpm	Gr	outing Me	ethod			, , , , , , , , , , , , , , , , , , ,
Method of development		rilling Met			*	
Was permanent pumping equipment installed	? Yes I No		-			
Pump capacity gpm		Note ea	ich denth whe	GEOLOG	IC LOG is encountered in	consolidated
oump type:		formati		no mater we	is encournered in	Consolidated
Drilling Fluid Type o	f Rig					
Health and Safety Plan submitted? Tyes	l No			.	*	
evel of Protection used on site (circle one)						
I certify that I have constructed the ab accordance with all well permit require State rules and regula	ements and applicable ations.					
Orilling Company	er e e e e e e e e e e e e e e e e e e					
Vell Driller (Print)						
Oriller's Signature						
legistration No	Date / /		i			

COPIES:

White - DEP

Canary - Driller

Pink - Owner

Goldenrod - Health Dept.

New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

			Well Per	mit No	<u>n - 5((%))</u>	
			Atlas She	eet Coordina	ates:	<u> </u>
OWNER IDENTIFICATION - Own	ner <u> </u>			***		
Address	State				Zip Code	• • • • • •
City	State	-	 		Zip Code	
WELL LOCATION - If not the san						
County		<mark>vy ar jiri</mark>	Lo	t No	Block N	۱o. <u></u>
Address	****				<u>.</u>	
TYPE OF WELL (as per Well Per Regulatory Program Requiring W				DATE WELL	ELL STARTED COMPETED	<u> </u>
CONSULTING FIRM/FIELD SUP	ERVISOR (if applicable)	, <u> </u>	· 5		Tele. # 2 / 2	99000
WELL CONSTRUCTION						
Total depth drilledf Well finished toft.	Note: Measure all depths from land surface	Depth to Top (ft.)	1	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished to it.	Single/Inner Casing	7-	1	. ,		
Borehole diameter: Top in. Bottom in.	Middle Casing (for triple cased wells only)	-			
Boπom in. Nell was finished: □ above grade	Outer Casing (largest diameter)					
flush mounted	Open Hole or Screen (No. Used)	and the state of t		¥		1.200 v 200 v 400
f finished above grade, casing height up) above land surface ft.	(No. Used)	_				_
Vas steel protective casing installed? ☐Yes ☐ No	Tail Piece				,w·	
Static water level after drilling	_ Glavel Fack	7	11.0	Q.	30.21	1677 1
Vater level was measured using l	Grout			7	Neat Cement Bentonite	ibs.
utgpm		routing Me	ethod .	<u> </u>		
Method of development		rilling Met	hod			
Was permanent pumping equipment	installed?					
oump capacity	_ gpm	Note ea	ch denth who	GEOLOG	IC LOG as encountered in o	consolidated
Pump type:	••	formati		Sic Water We	as encountered in c	onsondated
Drilling Fluid	Type of Rig			·		
Health and Safety Plan submitted?	Yes No		* *		<u> </u>	
evel of Protection used on site (circle	e one) None D C B A					
accordance with all well perm State rules ar	d the above referenced well in it requirements and applicable nd regulations.			•		
Drilling Company	Surface Control Even	-				
Vell Driller (Print)						
Driller's Signature						
Registration No.	Date / /					

New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

• 1			AAGII LEI	mit ido: ——	<u> </u>	
OWNER IDENTIFICATION - Owner			Atlas She	et Coordina	ates	9 3
Address 10.0 10.0 10.0 10.0 10.0 10.0 1	State			· · · · · · · · · · · · · · · · · · ·	Zin Codo	
WELL LOCATION - If not the same as or CountyAddress						
Address Property Address			***************************************			
TYPE OF WELL (as per Well Permit Cat Regulatory Program Requiring Well	egories) <u>HECCTALS</u>				ELL STARTED COMPETED	<u> </u>
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)				Tele. #	<u> </u>
WELL CONSTRUCTION	Note: Measure all depths	· · · · · · · · · · · · · · · · · · ·			I = -	
Total depth drilledft. Well finished toft.	from land surface	Depth to Top (ft.)	Bottom (ft.)		, Material	Wgt./Rating (lbs/sch no.)
Borehole diameter:	Single/Inner Casing			·)	+12 -17 14	[] 190
Top in. Bottom in.	Middle Casing (for triple cased wells only)		•	 .		
Well was finished: □above grade	Outer Casing (largest diameter)	_	مد. ا	. app 1 1-16		
☐ flush mounted If finished above grade, casing height (stick	Open Hole or Screen (No. Used)	· .		7		2 /0
up) above land surfaceft.	Blank Casings (No. Used)					
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece		•		·	
Static water level after drilling ft.	Gravel Pack	4	. /	4	Jen J.	1/200
Water level was measured using	Grout	20			Neat Cement	lbs.
Well was developed for hours at gpm	G				Bentonite	
Method of development	Di	rilling Met	hod	,	1 11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
Was permanent pumping equipment installed	? □Yes □ No	<u> </u>	<u> </u>	GEOLOG	10106	
Pump capacity gpm		Note ea	ch depth whe		as encountered in (consolidated
Pump type:		formati	ons.			
Drilling Fluid Type of	of Rig	<u>.</u>	or Bright		¥	1.
Health and Safety Plan submitted? Yes	No		T TV			· //
Level of Protection used on site (circle one)	None D C B A					•
I certify that I have constructed the all accordance with all well permit requir State rules and regul	rements and applicable		i .			
Drilling Company			: : : : : : : : : : : : : : : : : : :			· · · · · · · · · · · · · · · · · · ·
Well Driller (Print)			: 			
Oriller's Signature	· · · · · · · · · · · · · · · · · · ·		- 1			·
Registration No	Date / /		4 2 2			

New Jersey Department of Environmental Protection Bureau of Water Allocation MONITORING WELL RECORD

			Well Per	mit No	<u> 51048.</u>	
•			Atlas She	et Coordina	ites::	<u>a</u> . 404
OWNER IDENTIFICATION - Owner						* * * * * * * * * * * * * * * * * * * *
Address : City : To Spran said	Miliante Chiante (1953)	State of the Co.	* * * * * * * * * * * * * * * * * * *	0 0 1 7	Zin Code	
Oityin	State				Zip Code	
WELL LOCATION - If not the same as or	wner please give address.	Owner'	s Well No	• ;	<u></u>	
County	Municipality	<u> (1212) [41]</u>	Lo	t No	Block N	۷o. <u>هن</u> و
Address <u>kitch of the teacher</u>				DATE ME		
TYPE OF WELL (as per Well Permit Cat	agarias) Strandinas		, [DATE WELL	LL STARTED COMPETED	
Regulatory Program Requiring Well						
				J.,,,		
CONSULTING FIRM/FIELD SUPERVISO	OR (if applicable)	<i>:</i>	1		Tele. #	•. • <u> </u>
WELL CONSTRUCTION	Note: Magazine all destha			· · · · · · · · · · · · · · · · · · ·		
Total depth drilledft.	Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Well finished to ft.	Single/Inner Casing	72		1 ₂ /2		427 7 240
Borehole diameter:	Middle Casing		•	·		
Top in. Bottom in.	(for triple cased wells only)		-7			_
Bottom in.	Outer Casing					
Well was finished: above grade	(largest diameter)					
flush mounted	Open Hole or Screen			je:-		1/2
If finished above grade, casing height (stick	(No. Used) Blank Casings					
up) above land surface ft.	(No. Used)		••	ļ	•.	-
Was steel protective casing installed? ☐Yes ☐ No	Tail Piece				***	
Static water level after drilling ft,					 	
Water level was measured using	Gravel Pack	9	1.1	- 9	50 70	lhe
· · · · · · · · · · · · · · · · · · ·	Grout	2	استيسما و	3	Meat Cement	103.
Well was developed for hours				· · · · · · · · · · · · · · · · · · ·	Bentonite	lbs.
		_	ethod	<u> </u>		- San Jack
Method of development		rilling Met	noa	•	<u>, , , , , , , , , , , , , , , , , , , </u>	<u> </u>
Was permanent pumping equipment installed				GEOLOG	IC LOG	
Pump capacitygpm		Note ea	ch depth whe		s encountered in o	onsolidated
Pump type:	- , · · · ·	formation				
Dallia Florida	and the same of th		<u> </u>			
Drilling Fluid Type o						
Health and Safety Plan submitted? Yes] No					
Level of Protection used on site (circle one)	None D C B A					
						
I certify that I have constructed the ab	oove referenced well in					
accordance with all well permit requir State rules and regula	ements and applicable					
Orilling Company	audrio. Registro 184					
Drining Company						
Well Driller (Print)	and the second second		!			
	<i>j</i> •					
Oriller's Signature						
	Date / /					

· SERIAL# OUIJU

DWR-133M (8/95)

Mail to

STATE OF NEW JERSEY D

_				0 C, 10 C	
EPARTMENT	OF	ENVI	NOF	MENTAL	PROTECTION
		TREN	ITON.	. NJ	

NJDEP -

CN 426

Trenton N.I 08625-0426

Bureau Water Allocation

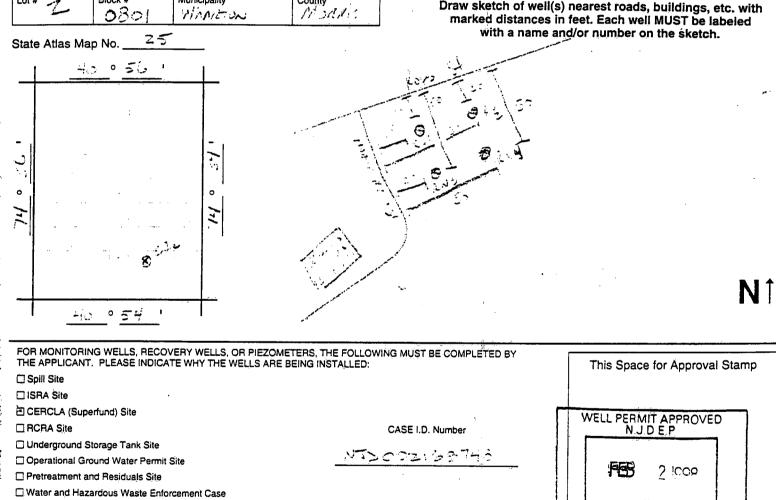
MONITORING WELL PERMIT

	*******	-1 (1411)	
VALID ONLY AFTER AF	PROVAL	BY THE D.E.P.	

	_	•	1	
Permit No.			1	
T CHIRCINO,				

		;		•
Permit No.	 	<u>.</u>	-	٠.,

Trenton, NJ 08625-0426	COORD # COORD
Owner LE CARROLLAR	Driller 127 - MAN-LAN-IC -NC
Address 1301 6. 74 7. Suite 3600	Address 100 Milliamon All
CLAMED 10 1 44/14	
Name of Facility	Diameter of Well(s) Proposed Depth of Well(s) ZO Face
Address	# of Wells Will pumping equipment Depth of Wells Wells Wells Wells Wells Wells Wells Wells Wells Wells Wells Wells Wells Wells
WARATON, NI	Type of Well (see reverse) If Yes, give pump capacity cumulative GPM
LOCATION	OF WELL(S)
Lot # 2 Block # Municipality County 0801 Winner N 30001	Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled



THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE I	BEING INSTALLED:	This Space for Approval Stamp
☐ ISRA Site ☑ CERCLA (Superfund) Site	·	WELL PERMIT APPROVED
☐ RCRA Site	CASE I.D. Number	N.J.D.E.P
☐ Underground Storage Tank Site		
Operational Ground Water Permit Site	<u> </u>	155 2 Icce
☐ Pretreatment and Residuals Site	•	2 1000
☐ Water and Hazardous Waste Enforcement Case		
☐ Water Supply Aquifer Test Observation Well		BUREAU OF WATER ALLOCATION
Other (explain)		DOUGLO CH WATER ALLOCATION

☐ Other (exp	plain)	
		· · · · · · · · · · · · · · · · · · ·
FOR D.E.P.	☐ Issuance of this permit is subject to the conditions attached. (see next page) ☐ For monitoring purposes only	☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.
USE		
SEE REVERSE	SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS REPTAINING TO THE REPAIR	

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date _	<u> </u>		Signature of Drill	Registration No	. <u>714</u>	171	_			
	4302	7	Signature of Owner	سبارا	<u> </u>		en en en en en en en en en en en en en e	4	James State Control	_

COPIES:

Water Allocation -- White

Health Dept. — Yellow

Owner — Blue

Driller --- White

SERIAL # OULSO

COPIES:

Water Allocation - White

DWR-133M-(8/95)

*Mail to

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION TRENTON, NJ

MONITORING WELL PERMIT

	~	-		٦.			
Permit No.	المنشد		_	نعر	٠.	÷	٠

NJDEP **Bureau Water Allocation**

Permit No.	لمزر	÷	 نمر	••	÷	1	,
							_

CN 426 <i>VALII</i> Trenton, NJ 08625-0426	D ONLY AFTER APPROVAL BY THE D.E.P.	COORD#: 55 .(C. 7 94
Owner 15	Driller	17/2// / · · · · · · · · · · · · · · · · ·
Address / / - / - / - / - / - / - / - / - / -	Will to the	1001. 1. 2. 2. 2.
Address 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Address 4	
Name of Facility	Diameter of Well(s)	Inches Depth of Well(s) Fee
Address	# of Wells Applied for (max. 10)	Will pumping equipment be installed? YES □ NO ⊡-
N	Type of Well	If Yes, give pump
	(see reverse)	capacity . () cumulative GPI
Lot # Block # Municipality C	marked distance	ell(s) nearest roads, buildings, etc. with es in feet. Each well MUST be labeled te and/or number on the sketch.
170° 50 - 170° 5		
<u> </u>		N ↑
FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETE THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEI		This Space for Approval Stamp
☐ Spill Site		
☐ ISRA Site ☐ CERCLA (Superfund) Site	•	,
☐ RCRA Site	CASE I.D. Number	WELL PERMIT APPROVED
Underground Storage Tank Site		WELL PERMIT APPROVED N.J.D.E.P.
☐ Operational Ground Water Permit Site		
Pretreatment and Residuals Site		
☐ Water and Hazardous Waste Enforcement Case ☐ Water Supply Aquifer Test Observation Well		
Other (explain)		BUREAU OF WATER ALLOCATION
		SCATION
FOR ☐ Issuance of this permit is subject to the conditions at D.E.P. ☐ For monitoring purposes only ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	ttached. (see next page) ☐ The well(s) may r or uncased boreh	not be completed with more than 25 feet of total screen tole.
SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PER		
In compliance with N.J.S.A. 58:4A-14, application is made	•	
	Signature of Driller	Registration No.
Signa	ature of Owner	

Health Dept. - Yellow

Owner — Blue

Driller — White



Appendix D Field Sampling Data

Monitoring Well Data

 Client RMT
 Project: LE Carpenter

 Job No: C 022
 Date Sampled: 3/12/98
 Analyst R. Toogood

Weil ID	MW-19-1	MW-19-2	MW_19-3	MW-19-4	MW-19-5	MW-15S	MW-151	MW-141	MW-22
Depth to Water From TOC					, , , , , , , , , , , , , , , , , , , ,				
feet (before purging)	10.91	10.94	11.64	9.60	11.03	9.79	9.68	2.00	2.20
Depth to Water From TOC					, , ,				_
feet (after purging)	11.98	11.36	12.34	12.02	11.37	9.38	9.71	2.11	5.91
Depth to Water From TOC									
feet (before sampling)	10.08	11.00	11.81	10.05	11.11	9.81	9.68	2.00	2.21
Depth to Bottom From TOC		i							
feet	18.00	17.83	17.80	17.82	18.30	19.48	40.14	43.32	8.81
PID Reading from Well									
Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0
Odding (Policy						,			
pH before Purge	7.20	6.95	7.00	6.65	7.04	4.95	6.78	8.18	7.35
Temp. before Purge (°C)	7.3	7.1	6.5	7.4	5.8	5.8	3.9	7.3	6.5
Diss. Oxygen before Purge									
(ppm)	2.1	2.2	4,3	4.2	3.8	9.6	4.8	3.9	1.3
Cond. before Purge									
(umhos/cm)	600	690	710	990	150	60	150	160	350
Water Volume in Well (gal.)	4.63	4.49	4.02	5.36	1.18	6.32	4.97	6.74	1.07
(3-/	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic
Purge Method	pump	pumo	pumo	pump	pumo	pumo	pumo	pump	pumo
Purge Start Time	9:26	9:33	9:09	9:07	9:44	10:50	10:50	11:56	11:58
r digo duit .m.o									
Purge End Time	9:42	9:51	9:31	9:25	9:50	11:13	11:09	12:26	12:03
1 4.30 4.10					1				
Purge Rate (gpm)	0.9	0.8	0.5	0.8	0.7	8,0	0.8	0.7	0.6
T digo Maio (gp)								·	
Volume Purged (gal.)	14	14	13	17	4	19	15	21	4
voising valged (gail)									
pH after Purge	7.21	6.84	7.02	6.70	6.79	6.75	7.03	8.14	7.32
private raigo		3.3	22-47						
Temp. after Purge (°C)	8.4	8.7	8.7	8.9	7.4	8.6	8.8	9.8	6.4
Diss. Oxygen after Purge	0.4			1.10					
(ppm)	3.0	2.3	4.5	4.8	2.0	3.8	1.8	3.9	2.7
Cond. after Purge	3.5		,,,,,						
(umhos/cm)	650	750	680	1,000	240	100	240	180	360
(umnos/cm)	300	730		10.00					
ali afta Camala	740	6.91	6.95	6.68	6.92	6.94	7.31	8.30	7.33
pH after Sample	7.18	0.31	0.33	9.00	0.02	3.3			
T	6.7	7.6	8.0	8.1	6.1	8.4	8.6	8.8	6.1
Temp. after Sample (°C) Diss. Oxygen after Sampling	0.7	7.0		9.1	V. 1	<u> </u>			
		20	5.8	5.6	2.8	4.8	2.3	3.4	2.4
(ppm)	4.1	3.0	J.0	J.U	ب.ب	7.0			
Cond. after Sample	600	750	700	1,000	230	100	230	180	360
(umhos/cm)	690	750	700	teflon	teflon	teflon	teflon	teflon	teflon
<u> </u>	teflon	teflon	teflon		bailer	bailer	bailer	bailer	bailer
Sampling Method	bailer	bailer	bailer	bailer	Daller	Danei	Danei	pane.	
	40.00	40:47	40.00	0.50	11:22	11.22	11:16	12:42	12:30
Time of Sampling	10:08	10:17	10:02	9:56	11:23	11:22	11.10	12.72	

Monitoring Well Data

Client RMT	Project: LE Carpenter
Job No: C 022	Date Sampled: 3/12/98 Analyst: R. Toogood

Depth to Water From TOC 10.91 10.94 11.64 9.60 11.03 9.79 9.68 2.00 2.20							·		<u> </u>	
10.94 11.64 9.60 11.03 9.79 9.88 2.00 2.20	Weil ID	MW-19-1	MW-19-2	MW_19-3	MW-19-4	MW-19-5	MW-15S	MW-15]	MW-14I	MW-22
10.94 11.64 9.60 11.03 9.79 9.88 2.00 2.20										
		10.91	10.94	11.64	9.60	11.03	9.79	9.68	2.00	2.20
	Depth to Water From TOC					į		. .	<u>.</u>	
Depth to Water From TOC		11.98	11.36	12.34	12.02	11.37	9.38	9.71	2.11	5.91
11.08	Depth to Water From TOC							0.00	6.00	
Part	feet (before sampling)	10.08	11.00	11.81	10.05	11.11	9.81	9.68	2.00	2.21
	Depth to Bottom From TOC				47.00	40.20	40.40	4044	42 22	0.04
Casing (ppm) 0.0 0	feet	18.00	17.83	17.80	17.82	16.30	13.40	40,14	43.32	0.01
Description Column Colum					00	00	0.0	0.0	0.0	30.0
Perfore Purge Purg	Casing (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	. 50.0
Perfore Purge Purg		7.00	0.05	7.00	6.65	7.04	4 95	6.78	8.18	7.35
Purple P	pH before Purge	7.20	0.95	7.00	9.55	7.04	7.00	9.70	40.10	
Purple P		72	7.	6.5	7.4	58	58	3.9	7.3	6.5
Description Description	Temp, before Purge (*C)	1.3	1-1-1		7.7	J., J		:-		
Description Description	· -	24	22	43	4.2	3.8	9.6	4.8	3,9	1.3
Furthos/cm 600 690 710 990 150 60 130 160 330 Water Volume in Well (gal.) 4.63 4.49 4.02 5.36 1.18 6.32 4.97 6.74 1.07 Purge Method peristatilic purno peristatilic purno </td <td></td> <td>4.1</td> <td></td> <td> </td> <td> </td> <td></td> <td></td> <td>-</td> <td></td> <td></td>		4.1		 	 			-		
Water Volume in Well (gal.) 4.63 4.49 4.02 5.36 1.18 6.32 4.97 6.74 1.07 Purge Method peristallic purse peristallic purs		600	690	710	990	150	60	150	160	350
Water Volume in Weil (gal.) 4.53 peristatic pumb 4.53 peristatic pumb 4.53 peristatic pumb 4.53 peristatic pumb pumb peristatic pumb pumb peristatic pumb pumb pumb pumb pumb peristatic pumb pumb pumb pumb pumb peristatic pumb pumb pumb peristatic pumb peristatic pumb pumb pumb pumb pumb pumb pumb pumb pumb pumb pumb pumb pumb pumb	(umnos/cm)	- 000		1.0						
Purge Method Purge Peristatic purpo Peristatic purpo Purge Method Purge	Motor Volume in Weil (cal)	4 63	4.49	4.02	5.36	1,18	6.32	4.97	6.74	1.07
Purge Start Time 9:26 9:33 9:09 9:07 9:44 10:50 10:50 11:56 11:58 11:58 Purge End Time 9:42 9:51 9:31 9:25 9:50 11:13 11:09 12:26 12:03 Purge Rate (gpm) 0.9 0.8 0.5 0.8 0.7 0.8 0.8 0.7 0.6 Volume Purged (gal.) 14 14 13 17 4 19 15 21 4 Del after Purge 7.21 6.84 7.02 6.70 6.79 6.75 7.03 8.14 7.32 Temp. after Purge 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (umhos/cm) 650 750 680 1.000 240 100 240 180 360 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.0 8.1 6.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.0 8.1 6.1 8.0 8.0 8.1 6.1 6.1 8.4 8.6 8.8 6.1 6.1 6.1 8.4 8.6 8.8 6.1 6.1 6.1 8.4 8.6 8.8 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1 6.1	vvater voidine in vven (gai.)			peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic	peristaltic
Purge Start Time 9:26 9:33 9:09 9:07 9:44 10:50 10:50 11:56 11:58 11:58 Purge End Time 9:42 9:51 9:31 9:25 9:50 11:13 11:09 12:26 12:03 Purge Rate (gpm) 0.9 0.8 0.5 0.8 0.7 0.8 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.8 0.7 0.6 0.8 0.7 0.6 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.6 0.8 0.8 0.7 0.6 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.8 0.8 0.7 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	Purge Method	1 *		1 1	1 '			pumo	pump	pumo
Purge End Time 9:42 9:51 9:31 9:25 9:50 11:13 11:09 12:26 12:03 Purge Rate (gpm) 0.9 0.8 0.5 0.8 0.7 0.8 0.8 0.7 0.6 Volume Purged (gal.) 14 14 13 17 4 19 15 21 4 DH after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (muhos/cm) 650 750 680 1.000 240 100 240 180 360 Diss. Oxygen after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Cond. after Sample (°C) 6.9 7.50 7.00 1.000 2.30 1.										44.55
Purge End Time 9:42 9:51 9:31 9:25 9:50 11:13 11:09 12:26 12:03 Purge Rate (gpm) 0.9 0.8 0.5 0.8 0.7 0.8 0.8 0.7 0.6 Volume Purged (gal.) 14 14 13 17 4 19 15 21 4 Del after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (mhos/cm) 650 750 680 1.000 240 100 240 180 360 Del after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (ppm) 4.1 5.0 5.8 5.6 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8	Purge Start Time	9:26	9:33	9:09	9:07	9:44	10:50	10:50	11:56	11:58
Purge End Time 3.42 3.51 3.51 3.51 3.51 3.51 3.51 3.51 3.52 3.51 3.52 3.51 3.52 3.51 3.52									40.00	40.00
Purge Rate (gpm) 0.9 0.8 0.5 0.8 0.7 0.8 0.8 0.7 0.6 Volume Purged (gal.) 14 14 13 17 4 19 15 21 4 oH after Purge 7.21 6.84 7.02 6.70 6.79 6.75 7.03 8.14 7.32 Temp. after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (umhos/cm) 650 750 680 1,000 240 100 240 180 360 OH after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) <td>Purge End Time</td> <td>9:42</td> <td>9:51</td> <td>9:31</td> <td>9:25</td> <td>9:50</td> <td>11:13</td> <td>11:09</td> <td>12:26</td> <td>12:03</td>	Purge End Time	9:42	9:51	9:31	9:25	9:50	11:13	11:09	12:26	12:03
Purge Rate (gpm) 0.9 0.8 0.9									0.7	0.6
Volume Purged (gal.) 14 14 13 17 4 14 13 17 4 16 7.32 oH after Purge 7.21 6.84 7.02 6.70 6.79 6.75 7.03 8.14 7.32 Temp. after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (ppm) 650 750 680 1,000 240 100 240 180 360 pH after Sample (umhos/cm) 650 750 680 1,000 240 100 240 180 360 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4	Purge Rate (gpm)	0.9	0.8	0.5	0.8	0.7	0.8	0.8	0.7	0.0
Volume Purged (gal.) 14 14 13 17 4 14 13 17 4 16 7.32 oH after Purge 7.21 6.84 7.02 6.70 6.79 6.75 7.03 8.14 7.32 Temp. after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (ppm) 650 750 680 1,000 240 100 240 180 360 pH after Sample (umhos/cm) 650 750 680 1,000 240 100 240 180 360 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sample (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4			1				40	45	24	4
Temp. after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (umhos/cm) 650 750 680 1,000 240 100 240 180 360 pH after Sample 7.18 6.91 6.95 6.68 6.92 6.94 7.31 8.30 7.33 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sampling	Volume Purged (gal.)	14	14	13	1 1/	4	19	13		7
Temp. after Purge (°C) 8.4 8.7 8.7 8.9 7.4 8.6 8.8 9.8 6.4 Diss. Oxygen after Purge (ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (umhos/cm) 650 750 680 1,000 240 100 240 180 360 pH after Sample 7.18 6.91 6.95 6.68 6.92 6.94 7.31 8.30 7.33 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (cond. after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sampling		1				0.70	C.75	7.03	914	7.32
Temp. after Purge (°C) 8.4 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	pH after Purge	7.21	6.84	7.02	6.70	6.79	6,75	7,03	0.17	1.02
Temp. after Purge (°C) 8.4 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7 8.7	_		1				0.2	0.0	98	6.4
(ppm) 3.0 2.3 4.5 4.8 2.0 3.8 1.8 3.9 2.7 Cond. after Purge (umhos/cm) 650 750 680 1,000 240 100 240 180 360 pH after Sample (amhos/cm) 7.18 6.91 6.95 6.68 6.92 6.94 7.31 8.30 7.33 Temp. after Sample (amhos/cm) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 Sampling Method bailer 12:30		8.4	8.7	8.7	8.9	7.4	0.0	0,0	3.0	<u> </u>
Cond. after Purge (umhos/cm)	· · · • • • • • • • • • • • • • • • • •			4 -	4.0	20	3.8	1.8	39	2.7
(umhos/cm) 650 750 680 1,000 240 100 240 180 360 pH after Sample 7.18 6.91 6.95 6.68 6.92 6.94 7.31 8.30 7.33 Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 Sampling Method bailer 12:30		3.0	2.3	4.5	4.0	2.0	3.0	1,0	<u> </u>	
(umhos/cm) 650 750 660 1,000 240 1,000 240 7,31 8,30 7,33 PH after Sample (°C) 6.7 7.6 8,0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 teflon teflon teflon teflon bailer 12:30			750	600	4 000	240	100	240	180	360
Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 teflon teflon teflon teflon teflon bailer 12:30	(umhos/cm)	650	(50	860	1,000	240	100			
Temp. after Sample (°C) 6.7 7.6 8.0 8.1 6.1 8.4 8.6 8.8 6.1 Diss. Oxygen after Sampling (ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 teflon teflon teflon teflon teflon bailer 12:30				0.06	e eo	602	6 94	731	8 30	7.33
Temp, after Sample (C)	pH after Sample	7.18	6.91	6.30	0.00	0.32	0.34	7.01		
Temp, after Sample (C)				0.0		61	8.4	8.6	8.8	6.1
(ppm) 4.1 3.0 5.8 5.6 2.8 4.8 2.3 3.4 2.4 Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 Sampling Method teflon teflon teflon teflon teflon teflon teflon teflon teflon bailer bailer bailer bailer bailer bailer bailer bailer 12:30		6.7	1.6	8.0	0.1	0.1	9.7	<u> </u>		
Cond. after Sample (umhos/cm) 690 750 700 1,000 230 100 230 180 360 teflon teflon teflon teflon teflon teflon bailer					= -	20	4.2	23	3.4	2.4
(umhos/cm) 690 750 700 1,000 230 100 230 180 360 teflon teflon teflon teflon teflon teflon teflon teflon bailer	(ppm)	4.1	3.0	3.8	3.0	4.0	7.0	2.0		
(umhos/cm) 650 750 700 1,000 250 100 teflon teflon teflon teflon teflon teflon teflon bailer	•		750	700	1.000	230	100	230	180	360
Sampling Method bailer	(umhos/cm)									
Sampling Westids Sailer Sailer Sailer 12:30		· ·	1	1	1	ı	1			ľ.
Time of Sampling 10:08 10:17 10:02 9:56 11:23 11:22 11:16 12:42 12:30	Sampling Method	Dailer	paller	paller	Daller	Callet	Daller			
Time of Sampling 10:08 10:17 10:02 9:36 11:23 11:22 11:10 12:42		40.00	10:47	40:00	0.55	11.22	11.22	11:16	12:42	12:30
	Time of Sampling	10:08	10:17	10:02	9:50	1 11:23	11.22	11.10	1 14.74	

Client RMT	Project	LE Carpenter
Job No: C 022	Date Sampled: 3/12/98	Analyst R. Toogood

	l ,	
Well ID	MW-25	MW-4
Depth to Water From TOC	,	
feet (before purging)	2.00	5.73
Depth to Water From TOC		
feet (after purging)	8.97	6.31
Depth to Water From TOC		
feet (before sampling)	1.74	5.81
Depth to Bottom From TOC		
feet	9.11	18.31
PID Reading from Well		
Casing (ppm)	0.0	0.0
pH before Purge	7.37	6.83
_		_
Temp. before Purge (°C)	4.5	3.4
Diss. Oxygen before Purge		
(ppm)	2.2	2.9
Cond. before Purge		
(umhos/cm)	340	255
Water Volume in Well (gal.)	1.16	2.05
l	peristaltic	peristaltic
Purge Method	pump	pump
<u> </u>	40.40	40:40
Purge Start Time	12:08	13:18
l	40.40	40.00
Purge End Time	12:13	13:25
S Sata ()		4.0
Purge Rate (gpm)	0.8	1.0
\\aluma Rurgad (sol \	4	7
Volume Purged (gal.)	-	
all office Durgo	7.47	6.99
pH after Purge	7.77	0.55
Temp, after Purge (°C)	6,1	4.8
Diss. Oxygen after Purge	0,1	٠.٠ .
	1.8	2.4
(ppm) Cond. after Purge	1.0	4.7
(umhos/cm)	350	260
(unnoscm)	330	200
all after Sample	7.55	6.92
pH after Sample	7.55	0.32
Temp, after Sample (°C)	4.8	3.6
Diss. Oxygen after Sampling	4.0	5.0
	25	3.9
(ppm) Cond. after Sample	2.5	3.3
	340	250
(umhos/cm)	teflon	teflon
Sampling Method	bailer	bailer
Sampling Method	Dailei	Dallei
Time of Sampling	12:34	13:36
	1270	, 5,50



Appendix E Laboratory Reports

A,

PAGE

ENVIROTECH RESEARCH INC. 777 New Durham Road Edison, New Jersey 08817 Phone: (732) 549-3900 Fax: (732) 549-3679

-بـــا
Ś
EQUEST
5
≂
\mathbf{r}
끶
Ľ
S
SIS
Ę,
~
⊴
Z
⋖
_
_
5
Ö
\mathbf{C}
-
JST
C
片
O
7
=
HAIN
I
$\overline{\mathbf{O}}$
_

Name (for report and invoice)		Samplers Name (Printed	Name (F	rinted)			-
Somes Ven Northern		1	C. Teerer		M. 14675	LE Lar	Carpeatic
Сотрану		P.O.#				State (Location of site): NJ: X NY:	Olher:
Rosidents Namesment Technolisms	horalesenes					Regulatory Program:	
Aridress		Anal	Analysis Turnaround Time	und Tine	ANALKSIS R	ANALYSIS REQUESTED (ENTER"X" BELOW TO INDICATE REQUE	
999 Plaze Driver Suite 370	370	Standard	П		14		Project No.
City State Zip		Rush Charg	Rush Charges Authorized For		711		8016
Schwanberg 12 40132540	5467	2 Week	П		9/1/2		Job No:
Fax		1 Week			9)		COXX
		Other			40 K		
Sample Identification	Date	Time	Matrix	No. of. Cont.	े 'ख		Sample Numbers
MAIN 3 S	2010/	12.24	3	55	×		49/05
V4 LC 4		98 (1	_				49166
MANA DOP	-	,	_	~	×		49/67
F1214 3121K	-	31.27		97	× <		49/68
13 Cm	-		7	~	X		49169
							•
			-				
						-	
A THE CONTRACT OF THE CONTRACT	A property of the second of th						
Preservation Used: 1 = ICE, 2 = HCI, 3 = H ₂ SO ₄ , 4 = HINO ₃ , 5 = NaOH	.O4, 4 = HINC)3, 5 = N	POH HOR	Soil:			
g = Other , 7 = ,	. 7 = Other			Water: 1,2	1 7 7		
Special Instructions						Water Melals	Water Metals Filtered (Yes/No)?

Special Instructions				Water Metals Filtered (Yes/No)?
Relinituished by	Company .	Date / Time	Received by 7 // //	Сотрапу
1 12010 11 11 10	Elect. Let	3/0/151	1) Totallack	ENVIRTEDA
Retinquished by	Сотрапу	Date / Time	Received by	Company
2		_	2)	
Relinquished by	Company	Date / Time	Received by	Сотрапу
<u>(E)</u>			3)	
Relinquished by	Сопрану	Date / Time	Received by	Company
4)			4)	

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH 0200), Rhode Island (132)

9

ENVIROTECH RESEARCH INC.

Edison, New Jersey 08817 Phone: (732) 549-3900 Fax: (732) 549-3679 777 New Durham Road

CHAIN OF CUSTODY / ANALYSIS REQUEST

LAB USE ONLY 49/55 Cana 49/58 63 49160 49156 49157 65/64 49162 801080 9/6 Project No: Sample Numbers Job No: 165. 40 Car peyter Other: ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUE Z Z State (Location of site): Site/Project Identification Regulatory Program: ود X2'0 Water: 1, 2 X No. of. Cont. Soil: Analysis Turnaround Time Samplers Name (Printed 23 4) 7 Rush Charges Authorized For 7 4 7 Matrix 13. Preservation Used: 1 = ICE, 2 = HCI, $3 = H_2SO_4$, $4 = HNO_3$, 5 = NaOHStandard 1 tot 11.22 () / () () 27.0 135.01 2 Week Other 110 21 1 Week 1060 1.5.6 11.33 Time 1.10/ P.O.# (.2hs. 2/17k:8 Residuals Manugement Technologies 7 = Other Ser 16 310 26/73 14.7 GM Sample Identification Plaze Drive Fax 6 = Other M IV DOD IS Name (for report and invoice 19-3 19-4 C-17 MM 2-61 MM - 121 MW mw/155 THIM IN MW22 S/AW1 だと 74.74 JE47125 टोवन Company Address

Company Company Company Company Received by Received by Received by Received by 7 Date / Time Date / Time Date / Time Date / Time 1 11/0/18 Sugar feet Company Company Company Company Special Instructions Relinquished by Relinquished by Relinguished by Relinquished by

Water Metals Filtered (Yes/No)?

Laboratory Certifications: New Jersey (12543), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132)

Client ID: MW-19

Site: L.E. Carpenter

Lab Sample No: 56775 Lab Job No: D197

Date Sampled: 04/23/98

Date Received: 04/23/98 Date Analyzed: 04/24/98

GC Column: DB624
Instrument ID: VOAGC3.i Lab File ID: ipid0643.d Matrix: WATER Level: LOW

Purge Volume: Dilution Factor:

5.0 ml 5000.0

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	1000
Toluene	76700	700
Ethylbenzene	2850	700
Xylene (Total)	14900	2500

Client ID: Trip_Blank Site: L.E. Carpenter

Lab Sample No: 56776 Lab Job No: D197

Date Sampled: 04/22/98 Date Received: 04/23/98 Matrix: WATER Level: LOW

Date Analyzed: 04/24/98 GC Column: DB624

5.0 ml Purge Volume: Dilution Factor:

Instrument ID: VOAGC3.i Lab File. ID: ipid0642.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

taring to the

ENVIROTECH RESEARCH INC. 777 New Durham Road Edison, New Jersey 08817 Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Phone: (732) 549-3900 Fax: (732) 549-3679				PAGE OF
Name (for report and involce)	Samplers Name (Printed)	Site/Project Identification	Ι,	
.S (L. 1) San	D. 1.286	19 898E 3968	/ L.E. Carpertal	i
Company	P.O. #	State (Location of site)	Z	
KM) INC.		Regulatory Program:		
(Analysis Turnaround Time	ANALYSIS REQUESTED (ENTER"X" BELOW TO INDICATE REQUE	C"BELOW TO INDICATE REQUE	LAB USE ONLY
1. Urive Sile	Standard	AFF.		Project No:
diZ €	Rush Charges Authorized For:	(Y)		
	2 Week	人们人		Job No:
Phone Fax 645-1500 847-995-1900	1 Week	FT ET		1610
	-3	् हा		Sample
Sample Identification Date	Time Matrix Cont.	<u>a.</u>		Numbers
MW-19 1.23 rg	प्रभर ७५ प		-	56775
- TRIP BLANK (10/2-1130) 4/11/9	193 H20 Z			56776
	7			
Preservation Used: 1 = ICE, 2 = HCl, 3 = H ₂ SO ₄ , 4 = HNO ₃ , 5 = NaOH	O ₃ , 5 = NaOH Soil:			
6 = Other 7 = Other	Water:	2 /		
Special Instructions 24 Hour Three	Arond	,	Water Metals Filtered (Yes/No)?	3/ 1 /c
_ ,		Received by	i	
Deliminated to	7 /			٠.
	Syn Mashara (A) 2 Missing		Company	71
linguished by		1	Chw Kal BCV	1,4
Company (3)	Date / I'me	Received by	Сотрапу	
Relinquished by Company	Date / Time	Seceived by	Company	
	-	4)	, and the second	
Laboratory Certifications: New Jersey (12543), New	New York (11452), Pennsylvania (68-522),		Connecticut (PH-0200), Rhode Island (132).	

פך עיי אוויי

3

fre and

Client ID: Trip_Blank Site: L.E. Carpenter

Lab Sample No: 51129 Lab Job No: C320

Date Sampled: 03/25/98 Date Received: 03/25/98 Date Analyzed: 03/29/98 Matrix: WATER Level: LOW

Purge Volume: 5.0 ml Dilution Factor:

GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid0136.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Client ID: Field_Blank Site: L.E. Carpenter

Lab Sample No: 51130 Lab Job No: C320

Date Sampled: 03/25/98 Date Received: 03/25/98 Matrix: WATER Level: LOW

Date Analyzed: 03/31/98 GC Column: DB624 Instrument ID: VOAGC3.i

Purge Volume: 5.0 ml Dilution Factor:

Lab File ID: ipid0169.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Client ID: GEI-2S Site: L.E. Carpenter

Lab Sample No: 51131 Lab Job No: C320

Date Sampled: 03/25/98 Date Received: 03/25/98 Date Analyzed: 03/31/98 GC Column: DB624 Matrix: WATER Level: LOW

Purge Volume: 5.0 ml Dilution Factor:

Instrument ID: VOAGC3.i Lab File ID: ipid0170.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	0.21	0.14
Xylene (Total)	ND	0.50

777 New Durham Road Edison, New Jersey 08817

CHAIN OF CUSTODY / ANALYSIS REQUEST

Phone: (732) 549-3900 Fax: (732) 549-3679						, , , , , ,	/ \ h (<i>-</i>	_	,	, ,		PAGE T OF
Name (for report and invoice)		s Name (i		Site/P	roject	Identi	fication)		•	
Mr. James Van Nortwick	14.14	orse/	<u>K.lva</u>	JUKE			LE	- (GID!	211 (2)				
Company	P.O. #	•	_	J			State	(Local	ion of	site):	NJ:	\boxtimes	NY:	Other:
Residuals Management Tech.							Regul	atory	Progra	am:				
999 Plaza Dr. Suite 370	An Standard	alysis Turna	round Time	1	ANAL	YSIS R	EQUE	STED	(ENT	ER "X" BI	ELOW	TO INDI	CATE REQUI	LAB USE ONLY
City State Zip Scheiumburg IL 60173-6407 Phone Fax (247) 905-1579	Rush Cha 2 Week	rges Authoriz	ed For:		-									
Phone Fax (847) 995-1500	1 Week Other			<u>ز</u> بار	4 6									
Sample Identification Date	Time	Matrix			3	_						_		Sample 3
Trop Blank 325/16	5:40	water	ス	X										经 国际
Field Blank	11:43		3	χ	X									NATION NO.
GEJ-25	11:45		6	X	×	,								MILL WARRANT
	17.5	1	<u> </u>	^				,					-	CANAMIST IN THE SECOND
	-	 				1							 -	Transfer and the state of the s
<u> </u>	 	 		 -										
	.	Ī												SAMULA INTO
	<u> </u>							;		_	,			
														WHAT IN THE PROPERTY OF
	1													atiaunsususus.
	1		-		<u>-</u>							<u> </u>		MINISTER STREET
Preservation Used: 1 = ICE, 2 = HCl, 3 = H ₂ SO ₄ , 4 = HNC)_	-04	I			<u> </u>								analication services in the services of the se
			Water:	<u>ე</u>	1									
6 = Other, 7 = Other				``									<u> </u>	
Special Instructions Lab OA Scample for	7)15	(2-Elh	ylhery	<u>l) </u>			-				W	ater M	letals Filte	red (Yes/No)?
Relinquished by Company		Da	te / Time		Receiv	ed by						Comp	any	
Relinquished by Company 1) Company Relinquished by Company	ch	3/25/9	x 1130	vò	1) (2,	ai)	-P.	ر بد	Sr	يعسوم.	,5	F	211C	26.2
Relinquished by Company		Da	te / Time		Receiv	ed by						Comp	pany	11 92.7.
2)			ı		2)									
Relinquished by Company		Da	te / Time		Receiv	ed by			··			Comp	any	
3)			ı		3)									
Relinquished by Company		Da	te / Time		Receiv	ed by						Comp	any	
4)			1		4)								•	
Laboratory Certifications: New Jersey (12543), New	York (1	1452), F	ennsylv	ania		(2), Co	nnec	ticut (PH-0:	200),	Rho	de Is	land (132	<u> </u>

Client ID: MW-19-1 Site: L.E. Carpenter Lab Sample No: 49155 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/23/98 GC Column: DB624 Matrix: WATER Level: LOW

Purge Volume: Dilution Factor: 5.0 ml 200.0

Instrument ID: VOAGC3.i Lab File ID: ipid9974.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	40.0
Toluene	4270	28.0
Ethylbenzene	219	28.0
Xylene (Total)	1160	100

Client ID: MW-19-2 Site: L.E. Carpenter Lab Sample No: 49156 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98
Date Analyzed: 03/22/98
GC Column: DB624 Matrix: WATER Level: LOW

Instrument ID: VOAGC3.i

Purge Volume: 5.0 ml Dilution Factor: 250.0

Lab File ID: ipid9951.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Limit Units: ug/l
Benzene	ND	50.0
Toluene	9830	35.0
Ethylbenzene	1130	35.0
Xylene (Total)	6010	125

Client ID: MW-19-3 Site: L.E. Carpenter

Lab Sample No: 49157 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/22/98

Matrix: WATER Level: LOW
Purge Volume:

GC Column: DB624

5.0 ml Dilution Factor:

Instrument ID: VOAGC3.i Lab File ID: ipid9952.d

VOLATILE ORGANICS - GC/PID METHOD 602

Method Detection Analytical Result Limit Units: uq/l Units: uq/l <u>Parameter</u> ND 0.20 Benzene ND 0.14 Toluene 0.14 Ethylbenzene ND Xylene (Total) ND 0.50

6

Client ID: MW-19-4 Site: L.E. Carpenter Lab Sample No: 49158 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/22/98

Matrix: WATER Level: LOW

5.0 ml

GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid9953.d

Purge Volume: Dilution Factor:

1.0

VOLATILE ORGANICS - GC/PID METHOD 602

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	, ND	0.14
Xylene (Total)	ND	0.50

8

Client ID: MW-19-5 Site: L.E. Carpenter Lab Sample No: 49159 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/23/98 GC Column: DB624 Matrix: WATER Level: LOW

Level: LOW
Purge Volume:
Dilution Factor:

5.0 ml 5000.0

GC Column: DB624
Instrument ID: VOAGC3.i
Lab File ID: ipid9975.d

VOLATILE ORGANICS - GC/PID METHOD 602

Method Detection Analytical Result Limit Units: uq/l Units: uq/l Parameter ND 1000 Benzene 123000 700 Toluene 700 1920 Ethylbenzene 10100 2500 Xylene (Total)

Client ID: MW-Dup-19 Site: L.E. Carpenter Lab Sample No: 49160 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/23/98

Matrix: WATER Level: LOW

GC Column: DB624
Instrument ID: VOAGC3.i

Purge Volume: 5.0 ml Dilution Factor: 250.0

Lab File ID: ipid9976.d

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit Units: ug/l
Benzene Toluene Ethylbenzene Yulong (Total)	ND 3670 280 1470	50.0 35.0 35.0 125
Xylene (Total)	1470	125

Client ID: Field_Blank Site: L.E. Carpenter Lab Sample No: 49168 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/22/98 Matrix: WATER Level: LOW

GC Column: DB624
Instrument ID: VOAGC3.i

Lab File ID: ipid9947.d

Purge Volume: 5.0 ml Dilution Factor: 1.0

<u>Parameter</u>	Analytical Result <u>Units: ug/l</u>	Method Detection Limit Units: ug/l
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50

Client ID: Trip_Blank Site: L.E. Carpenter

Lab Sample No: 49169 Lab Job No: C022

Date Sampled: 03/12/98 Date Received: 03/12/98 Date Analyzed: 03/22/98 Matrix: WATER Level: LOW

GC Column: DB624

Purge Volume: 5.0 ml Dilution Factor:

Instrument ID: VOAGC3.i Lab File ID: ipid9946.d

Parameter	Analytical Result <u>Units: ug/l</u>	Method Detection Limit <u>Units: ug/l</u>
Benzene	ND	0.20
Toluene	ND	0.14
Ethylbenzene	ND	0.14
Xylene (Total)	ND	0.50